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An Address
ON
THE DIAGNOSIS AND NOMENCLATURE OF DISEASE.

DELIVERED ON MARCH 25TH BEFORE THE MEDICAL SOCIETY OF THE ONTARIO MILITARY HOSPITAL, ORPINGTON.

BY
R. D. RUDOLF, C.B.E., M.D., F.R.C.P.,
COLONEL C.A.M.C.,
CONSULTING PHYSICIAN TO THE CANADIAN FORCES IN ENGLAND.

SOME of us heard at the Royal Society of Medicine the other evening a delightful address by Dr. Henry Head upon disease and diagnosis.[1] This is a subject upon which we all must have thought a great deal, and when your secretary asked me to give something at this meeting, I felt that it might be useful, certainly to me, if we could discuss the matter a little.

When a practitioner is called to see a patient, he is sent for in order that he may cure the disease or relieve the suffering of the afflicted one. In order to do this efficiently his first step is naturally to try and find out what the trouble is—in what way the sufferer is deviating from the normal line, called health. In other words, he must make a diagnosis.

Now the word "diagnose" means to perceive, or to know through, or thoroughly, and medical diagnosis is defined in Murray's *Dictionary* as "the determination of the nature of a diseased condition," also "the identification of a disease by careful investigation of its symptoms and history; also the opinion (formally stated) resulting from such investigation." In the *Spectator* of October 1st, 1892, we read: "Swindlers seem to possess in an extraordinarily high degree the power of moral diagnosis—of telling what are the weak spots in the mind of the ordinary man," and Murray uses this as an example of the correct use of the word. In the same way (except that he is not a swindler) the medical diagnostician looks through his patient with his mental eye, aided by every possible clinical and laboratory method, and tries to unravel the whole condition of the man.

His aim is to unravel completely the whole of the puzzle before him, and *post-mortem* revelations tend to keep the most self-satisfied clinician humble, for when does one ever see a complete diagnosis? If the patient recovers, then you never know what really was the matter with him, and when he dies and the *cadaver* is opened, the pathologist points out to us, *generally* without remark, the effusion that we missed, the normal endocardium that gave rise to such a characteristic murmur, and so on.

But even *post-mortem* examinations do not always clear up diagnoses, and many of you will remember how Mr. I. H. Cameron used to say, in his quaintly humorous way, that he never yet saw a *sectio cadaveris* show exactly why the patient died. The difference between a body fit for the soul to dwell in and one just not fit is so slight that the most careful macroscopic and microscopic examination of the dead tissues may fail to show just why to-day the man is dead and yet yesterday he was alive.

Diagnosis must usually pass through the three stages of possibility, probability, and certainty. At the first visit the doctor thinks of a number of possible conditions from which his patient may be suffering. For example, he has continued fever, and the case may be one of typhoid, paratyphoid, influenza, malaria, miliary tuberculosis, trench fever, etc. In a day or two it becomes likely that the condition is either typhoid fever or one of the paratyphoid infections, and finally it is certain that the man has, say, enteric fever. In many instances the diagnosis never gets beyond the stage of probabilities—and even then may be wrong!

When a man, in previously perfect health, is taken with some acute disease, the diagnosis under a single name may be fairly correct. The patient is like a new motor-car that suddenly breaks down. In all probability here there is only one lesion, and when that is corrected the car will be as good as ever again. Most of our military medical work is among high category men, and the seeds of disease are thus sown in virgin soil; but in civil practice we are only too often dealing with people who are not originally healthy, and when these are taken ill with even the simplest of conditions they are like C.A.M.C. "Jitneys," which, when they break down at last, are found to have many weak spots besides the final lesion. In patients like these many systems are involved, and this fact should be expressed in the diagnosis.

We do not, or should not, diagnose a disease, but rather the condition of a diseased person, which is quite a different thing. Two men may suffer from a pneumonia due to the same infection; but one may be otherwise sound, while the second may be like the old "Jitney" car, unsound in every part, and, although for simplicity of classification we put them both under the one heading of "pneumonia," the cases are quite different, as are also the prognoses and the methods of treatment.

Two ships are out in the same storm off the same lee-shore; one is sound in engines, spars, and crew, while the other is weak in all these essentials. The first will probably weather the storm and will reach port safely, while the other may founder, or else struggle into the haven a mere wreck. So it is with different individuals who are fighting against the same disease.

In endeavouring to diagnose the condition of a patient, a general view should first be taken of him, including the history and all the surrounding circumstances of the case. Next we concentrate on any abnormalities found, bringing to bear on such all the methods of precision that are at our command. Finally, in summing up the case, a general view should once more be taken, and then any abnormalities that our precise examination has revealed may be gauged in proper proportion to the whole "make-up" of the man.

All watertight compartment diagnoses must be avoided, under which heading we may put many so-called "specialists'" findings. Sir James Mackenzie, in a humorous speech at Chicago last year, said to his audience that he had told Professor Welch and Sir Almroth Wright to their faces that they had had a most pernicious influence on medicine. Of course he did not mean it, but the lesson that he was hinting at is that too great concentration on laboratory findings may divert our attention from the condition of the patient as a whole.

All special methods of examination have their place in clinical medicine, and a constantly growing place, but they must be kept in their place and not called upon to settle complete diagnoses. A patient may show a positive Widal reaction and the typhoid bacillus may be found in the blood, but the statement that he has enteric fever may not be a complete diagnosis. He may have pneumonia or nephritis or any other condition as well, and the typhoid may really be the least important part of his condition. I came across a man the other day who was suffering from nephritis, with a very high blood pressure, and yet, because he had been found to have a one *plus* Wassermann reaction, without any history of venereal infection, he had been sent to a special hospital for venereal disease for a full course of salvarsan.

Many of you will remember when the von Pirquet test for tuberculosis was introduced. In time it was found to have a limited place in the diagnosis of this infection, but how many people were condemned to much mental and financial distress before that place was defined! Albumin in the urine does not necessarily mean nephritis nor sugar necessarily denote diabetes, and yet every day one sees such unwarranted assumptions made upon such insufficient foundations.

All that I have been saying leads to the same point, and that is to the great value of team work. Probably one of the chief lessons that we have learned in military practice has been the appreciation of this matter. The staff of each military hospital is a team, and we have all got into the way of consulting together in the wards, in the laboratory, and in the *x*-ray room. It is one of the most hopeful signs of future good progress in medicine that this idea of team work is being discussed everywhere, and in many places is already being put into practice in civil life. As Dr. Head said the other night, of course such co-ordinated work is not everywhere possible. In country districts the general practitioner must often embody the whole team in his own person, but wherever possible such sharing of work and responsibility should be undertaken. The result will be that not only will the patients so studied benefit, but bodies of keen workers will, from the data that they collect, evolve certain simple rules of diagnosis

which the general practitioner may then apply, and so detect conditions that would otherwise be far beyond his ken.

Such team work in no way minimizes the importance of individual efforts at investigation. The most isolated practitioner can, and often does, contribute to the general knowledge, if he will but get into the habit of noting down what he sees. The best example of what can thus be done that occurs to me is that of Sir James Mackenzie, who, while a family doctor in a Yorkshire town, laid the foundation, and indeed accumulated most of a knowledge, of heart conditions, which knowledge has revolutionized our whole ideas of cardiology.

When a conclusion has been reached as regards the condition of a patient it usually has to be expressed in words. As Murray puts it, one meaning of the word "diagnosis" is "the opinion (formally expressed) resulting from investigation." And often this is a very difficult thing to do. The skilled old sailor, after he has glanced at the sky and consulted his instruments, usually has a very good idea of what the weather is going to be, but ask him to put his findings in words and you will seldom get much satisfaction. So it is with many a skilled practitioner. Fortunately the public often think the more of a man because he says little. Years ago, while on a walking tour in this country, I came across a country doctor whose chief claim to great cleverness, as far as I could make out, lay in his silence. According to one of his admirers, "He was such a clever man, that he would come into the house and look at you and write a prescription and go away without saying a word." I wonder if this man is now in the army, and, if so, how he likes always having to put his diagnosis in writing, and that within twenty-four hours of the patient's admission to hospital.

Often at a consultation the doctors very well understand the condition of a patient, and the first difficulty comes when the question arises, "What are we to say to the friends?" "What shall we call the trouble?" An old surgical teacher in Edinburgh, Professor John Chiene, used to advise us, when we were thus pressed for a name, to tell the patient that he had a sacro-iliac synchrondrosis. As he said, this was true and did not commit you, and yet the name often gave the greatest satisfaction, and the patient went away feeling that he had got the value of his money. As we all know, many a patient fairly hugs such a satisfactory name as "V.D.H.," or even "N.Y.D."

A diagnosis, in order to be correct, should be a complete description of the whole condition of the patient, and, as this is manifestly impossible, we must resort to names or labels of some sort, which, in a word or a phrase, will express what otherwise might require many lines. The danger of thus summing up a condition in a word is that we are all too apt to think that a final diagnosis has been reached when such a name has been appended. These names should not be considered as goals, but merely resting places on the road to a more detailed diagnosis. Labels or names, then, we must have, but what a chaos the whole of medical nomenclature is in! The names therein, often in bastard Greek or Latin, are apparently not founded on any basis of classification. They arise, for example, sometimes from the name of the supposed discoverer of the condition, again from the supposed cause of it or from a prominent symptom, or from the organ supposed to be chiefly affected, or again from the supposed pathology, or the geographical distribution of the disease, and so on. And yet there is often much doubt as to who first described a disease; uncertainty as to the exact cause of the trouble, and of the exact pathological nature of the condition.

Very often, the more we know of a disease the less satisfactory is the name under which it exists. I need only mention rheumatic gout (which is probably neither rheumatism nor gout, and we do not know what either of them are) and typho-malaria (which is either typhoid or malaria, but not both) to illustrate the truth of this.

Numbers or letters of the alphabet would often do as well as names for labelling diseases, and would not commit us in the same way. Indeed, in the official *Nomenclature of Diseases* supplied for use in the army, numbers are used in addition to names. Thus a man may suffer from "No. 9," as well as take it! This official list of diseases was prepared for the R.A.M.C. by a Commission of the Royal Colleges, and is indeed a wonderful production. Diseases are classified largely according to systems affected. It would scarcely do at present to criticize it, but it is hard to understand why such symptoms as "dry mouth (482)," "eructations (501)," and "loss of appetite (512)," should be dignified with the rank of disease, while on the other hand such common and definite things as haemothorax and auricular fibrillation do not appear. "Ureteritis and periureteritis (669)" again seems an unnecessary name. I wonder how many cases have been returned under this diagnosis during the war. "N.A.D." and "P.U.O." are much used terms, although they do not mean "no authorized disease" and "put under observation" respectively, as I have heard them translated.

"V.D.H." and "D.A.H." are useful classes (merely as first resting stations), and "debility" and "myalgia" help many a man to the base and do not commit the hard-worked medical officer too much; but, as I said before, all these names are delusions and snares if they are treated as complete and final conclusions as to disease.

Conclusions.

1. Examine a patient generally, in detail, and then generally again.
2. In expressing the condition of the patient in a name, choose one that goes no further than the findings of the case permit. Often a generic name, which is probably right, as far as it goes, is better than a specific one which may be wrong.

REFERENCE.
[1] BRITISH MEDICAL JOURNAL, March 29th, 1919, p. 365.

SOME PRACTICAL SUGGESTIONS FOR THE WORKING OF A VENEREAL CLINIC.

BY

E. F. SKINNER, M.A., M.B., M.R.C.P.,

MEDICAL OFFICER IN CHARGE, VENEREAL DEPARTMENT, SHEFFIELD ROYAL HOSPITAL.

THE following notes make no pretence at setting out anything new in the way of treatment, but are simply the results of experience in carrying on a civil venereal centre. A short statement of this experience may be of value to other workers who have started, or are about to start, similar clinics.

The staff consists of two medical officers, one of whom takes charge of the syphilis, the other of the gonorrhoea cases; besides these there is an assistant medical officer who is paid, an orderly man who assists in the irrigation department, and a permanent sister in charge of the nursing arrangements, who also does the necessary clerking work.

All the patients are treated as out-patients, though two beds, one male and one female, are set aside in the wards for the use of the department if necessary, but these beds have not been called upon during the last six months, and it is now felt that the need of beds is not so imperative as was formerly considered. I propose to describe the arrangements as carried out for syphilis. The section on gonorrhoea has been omitted from consideration of space.

It has been found most convenient to divide the work into new cases and old cases, and to admit new cases on one day, carrying out the treatment on some subsequent date. One morning is set aside for the examination of new cases of syphilis, male and female, at which time they are examined, and instructions are given as to attendance for treatment, etc.; and one evening clinic is arranged for men only, to meet the convenience of working hours. Treatment is carried out on a subsequent day, one day being reserved for men and one for women.

ROUTINE FOR CASES OF SYPHILIS.

In dealing with a large number of people all suffering from the same condition it is essential that a routine should be followed; and, whilst admitting the dangers and disadvantages of routine methods, it may be pointed out that these dangers vary inversely with the interest shown by the medical officer. I will describe briefly the method of examining patients carried out in the clinic; it is rapid and sufficiently exhaustive to ensure that any lesion will be found, and to disclose the necessity or otherwise of any special examination.

Examination.

Before any entries are made in the register the male patient is stripped as follows: Hat, coat, and waistcoat are removed, trousers are pushed down to the ankles, and the shirt pulled up under the armpits. This bares the body, except the feet and shoulders, and is generally sufficient, and saves the men taking off their boots and socks. The man stands in front of the examiner, who is seated, and the examination begins with the anterior aspect, the genitals being first dealt with and any sore noted. The inguinal region is palpated for enlarged glands, and the presence or absence of any rash or discoloration is observed. The patient is then made to turn round and bend down, exposing the anus and perineum, which, with the back of the scrotum, is next examined. He again turns round and stands up, and the cervical glands are palpated and the fauces carefully examined, together with the tongue and the buccal mucous membrane; and it may be mentioned in parenthesis that the best type of tongue depressor is a wooden garden label, which can be used and burnt immediately. By this time it should be obvious whether the man is syphilitic or not, and should he be considered infected his notes are commenced, the name and address being entered in the register and a serial number allocated.

The sore is then examined microscopically for spirochaetes by the dark-ground method, as follows: A small square of lint moistened with normal saline is taken and the sore cleansed, and when the surface is clean a drop of serum is obtained from it, which can usually be accomplished quite easily by gentle friction with the lint, followed by a little digital pressure between the gloved fingers. If the sore bleeds readily the first exudation of blood should be soaked up with the lint, and this repeated until the exudation is only slightly blood-stained, as too much blood in the serum hinders the discovery of the spirochaetes, though a few blood cells are an advantage, as they materially assist the focussing of the dark-ground preparation. When the sore is bathed in serum a perfectly clean square cover-slip is taken in a Cornet's forceps and with the surface of a corner of the slip, the serum is touched, taking care not to allow serum on both sides of the slip. Next, with a platinum loop a small drop of normal saline is taken up and mixed with the serum on the cover-glass, which is dropped on to a thin white microscope slide, and the latter marked, by means of grease-pencil with the patient's name and put aside to be dealt with later.

The examination of the patient is then concluded by auscultation of the heart, after which he is told to pass water and then to dress. All the new patients are seen first, and the urine test and the search for spirochaetes are carried out when the clinical examination is completed.

Urine Test.

Heller's test is the one chosen, and the method I adopt is as follows: About quarter of an inch of strong nitric acid is put in the bottom of a test tube and by means of a pipette two inches of urine are allowed to flow slowly down on to the surface of the nitric acid. Should albumin be present the usual ring appears at the junction of the fluids, but not infrequently, though no albumin is present, a hazy cloud appears in the upper portion of the urine, which indicates the presence of globulin or nucleo-albumin, and is no contraindication to the use of salvarsan.

The search for spirochaetes should be made at once if possible, but should this be impracticable the serum may be collected and sent to some pathological centre for examination. The best way of collecting the serum is by means of a small Wright's pipette. The sore is treated as above described, and when the serum is sufficiently abundant the pipette is applied and the serum allowed to collect, when both ends of the tube are sealed. After the completion of the examination and the filling up of the case-card with the necessary particulars, the patient is instructed when to come to the hospital for treatment, and is given a small square card coloured "blue," which he presents to the sister in charge on his next appearance, along with his identification number, which blue card signifies that he is to receive treatment and also to have a Wassermann test.

Instruction to Patients.

Before leaving the hospital he is instructed how to prepare himself for treatment as follows:

1. *On the Night before his Injection:* To have a good dose of "salts," so as to ensure a free action of the bowels.
2. *On the Day of Injection:* To have a good substantial breakfast, but a very light lunch—such, for instance, as a cup of bovril and toast, or a poached egg and coffee; to abstain from alcohol, and to make arrangements for going to bed immediately on his return from hospital.

I have found it essential that patients should not be exhausted by lack of food.

Registration.

The above is the routine followed in dealing with men, and in the case of women the only difference is that the sister strips the patient and covers her with a blanket, and she is examined on the couch, and not standing. Should the diagnosis be doubtful and further evidence be required, the patient is not entered in the register, but is given a small red card and told to present himself on the next treatment day, the red card signifying to the sister that he needs a Wassermann test only; and I might describe here the little card system, which I have found saves a great deal of labour and time.

Each patient who comes up on a treatment day has in his possession a card of one of the three colours—blue, red, or yellow (a small piece of card 1½ in. square)—and according to the colour of this card the sister knows at once what to do with the patients, without referring to their case cards, and is able to segregate them into batches. The blue card means that the patient is to have a Wassermann test and treatment, the red card means a Wassermann test only, while the yellow card signifies that the patient is to receive treatment only. The blue and yellow cards are further stamped with a figure 0.3 or 0.4 or 0.5 according to the dose of salvarsan the patient is to receive.

Methods of Treatment.

After some experience, beginning with the old German salvarsan and neo-salvarsan, given in the original large sterilizing doses, and of the newer drugs, both of the "606" and "914" type, I have adopted a standard course of seven intravenous injections of kharsivan and nine intramuscular injections of mercury. Each of the many arsenical preparations on the market has its own advantages and disadvantages, but the stability of kharsivan and its constancy of composition are valuable assets, whilst the fact that large quantities may be made up and used for a series of cases, renders it particularly suitable for institutional work. The "914" group of drugs cannot be given in quite the same way, as each dose should be made up separately owing to the more rapid oxidation and consequent increased toxicity of these salts.

The disadvantage of the kharsivan and the "606" group is that they are rather more toxic than the "914" or "neo" salts, and their method of preparation is not that of simple solution, but with standardized reagents and apparatus the difficulties of the technique vanish and with the disappearance of errors of technique many of the toxic effects of kharsivan also disappear.

The routine adopted is one modelled on the army course, and with the necessary modification for dealing with civilian patients it has been found satisfactory in every way.

As soon as the patient is diagnosed as syphilitic (the heart and urine showing no contraindications) he is embarked on the full course of kharsivan and mercury, which are given at the following intervals:

1st day	...	kharsivan 0.3 gram;	mercury 1 grain
8th day	...	,, 0.3 gram;	,, 1 grain
15th day	...	,, 0.3 gram;	,, 1 grain
22nd day	...	... ...	,, 1 grain
29th day	...	kharsivan 0.4 gram;	,, 1 grain
36th day	...	... ...	,, 1 grain
43rd day	...	kharsivan 0.4 gram;	,, 1 grain
50th day	...	... ...	,, 1 grain
57th day	...	kharsivan 0.5 gram;	,, 1 grain
64th day	...	... ...	,, 1 grain
71st day	...	kharsivan 0.5 gram;	,, 1 grain
Total	...	kharsivan 2.7 grams;	mercury 11 grains

The Wassermann reaction is tested on the 1st, 43rd, and 78th days.

This dosage is modified for women patients by giving three doses of 0.4 gram instead of the last three doses shown above. Whilst on the table the patient is given one of the little coloured cards—red, blue, or yellow according to the requirements of his next visit.

Wassermann Tests.

On the "treatment days" Wassermann tests are first dealt with as follows: All the patients who are to have the tests are collected by the sister, and small labels made out bearing their identification numbers. The requisite number of sterile tubes is placed in a rack, each tube having a rubber cork pierced with two holes, through one of which passes a small glass tube, to which is attached a short length of thin rubber tubing and a needle.

The patients are arranged with the left sleeve rolled up and as each one comes up to the operator the sister puts a rubber tourniquet round the upper arm with a single twist and holds the free ends tight while the flexure of the elbow-joint is painted with tincture of iodine. The patient then clenches the fist and the needle is pushed into the vein, and as soon as blood appears the sister slacks the tourniquet and tells the patient to open the hand. About 10 c.cm. of blood are withdrawn, a small pad of wool is placed on the puncture, and the patient told to swing the arm over the head, and to press on the puncture pad for a few moments, after which a small circle of sterile gauze is fixed over the site with a double cross of narrow strapping. By means of the coloured cards the sister knows the number of patients requiring Wassermann tests, and is able to have prepared the requisite number of ready corked and needled tubes; much time is saved thereby, as many as forty Wassermann specimens being easily taken in a quarter of an hour. As each tube is filled, the man's number should be asked again, and the corresponding label affixed to the tube then and there.

Kharsivan Injections.

One of the most convenient forms of the injection apparatus is the "double-funnel" pattern.* The hermetically sealed tubes in which kharsivan is sold contain either 0.3, 0.4, or 0.6 gram doses, and I have found it most convenient to use only those containing 0.6 gram. Five of these tubes are taken and the thin end filed off, their contents being shaken into a small bottle containing about 50 c.cm. of sterile distilled water, and solution obtained by vigorous shaking after putting in a tightly fitting stopper. When thoroughly dissolved, 5 c.cm. of a 15 per cent. solution of caustic soda is added from a 5 c.cm. pipette. This is a practical point of some importance. As both the kharsivan and water and the final sodic salt are clear solutions the only way to prevent mistakes—either giving the non-neutralized solution or a too alkaline solution—is to watch carefully the change that occurs at the neutral point, that is, the formation of a heavy precipitate. Titration cannot be carried out conveniently every time, but if once done and the amount of caustic soda determined for any particular amount of kharsivan, the rest is simple. I use a 15 per cent. solution of caustic soda, as 1 c.cm. of this strength is sufficient to neutralize one tube of 0.6 gram kharsivan, and for the 3 grams I therefore use 5 c.cm. of the soda solution and deliver it with a 5 c.cm. pipette. If it is added slowly the precipitate can be seen, and then a few more drops of the soda will redissolve it, producing a clear solution of the sodic salt. A small excess of alkali is an advantage—just before the neutral point a very toxic monacid salt is formed—and the final alkaline solution is tested on a litmus leaf in every case.† The resulting fluid should be quite clear, void of any flocculi, and the colour of sherry; it is essential to filter it through several thicknesses of sterile gauze into one of the glass containers, as minute particles of glass from the kharsivan tubes occasionally fall into the fluid.

The container into which the kharsivan solution is filtered is then filled up with normal saline to the 300 c.cm. mark, producing a solution of 3 grams of kharsivan in 300 c.cm. of saline, and as the containers are calibrated in 10 c.cm. each division on the scale represents 0.1 gram of kharsivan. I have found this a most convenient dilution, the 10 c.cm. being sufficiently large in volume to be given by itself if necessary, and allowing at the same time any variation of dose from 0.1 to 0.5, which in a series of patients who are to receive varying doses is of great practical convenience. Moreover, since this particular dilution was adopted there have been none of the troublesome vasomotor reactions sometimes seen. The details of the venipuncture I need not specify, except to state that, as far as possible, the right arm is reserved for injections, the left arm for Wassermann tests, and that about 20 c.cm. of saline is allowed to run into the vein before the kharsivan, the latter being then washed into the circulation by a final 20 or 30 c.cm. of saline, so that each patient receives a "sandwich" of "606" and saline. I now give the solutions just above the room temperature, without any ill effect; I am sure that hot solutions are more toxic. Patients are now allowed to leave the hospital immediately after the injection, and if one can be sure of technique, and that the instructions as to diet, etc., have been carried out, there need be no fear of ill results; during the last six months no case has been detained overnight in the hospital. The immediate vasomotor reactions referred to above, which occur while the patient is on the table or immediately afterwards, are shown by the complaint of a sudden feeling of choking, with suffusion of the conjunctivae and flushing of the face and neck, and are very often ushered in by a slight cough or licking of the lips. Maintenance of the recumbent position, together with a hypodermic, or, better still, intramuscular injection of 1 c.cm. of adrenalin solution (1 in 1,000), generally suffices to counteract this condition; but occasionally one meets with severe reactions in which the subject becomes deeply cyanosed, with profuse clammy sweating, unconsciousness, and widely dilated pupils. If this occurs, immediate bleeding is imperative. Hence on the table, beside the couch, there are always ready to hand a sterile hypodermic syringe and needle (proved to be in working order at every séance), and adrenalin solution, together with a sterile scalpel and a bowl.

Mercury Injection.

If the necessary details of technique are observed this method of medication is quite painless; so painless, in fact, that I have often seen men stand waiting for their injection without realizing that it has been already administered. It is given as follows:

The men who are to receive the mercury are told to let the trousers down and bare the buttock, which is then painted with tincture of iodine in the upper quadrant; a long needle, previously sterilized in oil, is next taken and held by the adapter-end between the finger and thumb of the right hand and "jabbed" into the muscle right up to the hilt; the syringe is then applied to the needle, which is steadied by the left forefinger and thumb, and the requisite dose of mercury given slowly, after which the needle is withdrawn on the syringe and the part vigorously rubbed with a pad of cotton-wool or a towel. The preparation of mercury used is "grey oil," of which 1 c.cm. (roughly 15 c.mm.) represents 1 grain metallic mercury.

*This apparatus is put up in a convenient form by the Holborn Surgical Instrument Co.

†Too alkaline a solution will produce great pain at the site of injection during the operation, and will cause thrombosis and obliteration of the veins, which are thus rendered useless for further treatment.

Periods at which Wassermann Tests are Made.

These are done three times during the course, once at the commencement, once after the second 0.4 dose, and finally after the completion of the course—that is, one week after the last injection. By this means valuable information is obtained as to the patient's response to treatment, and the necessity for any further medication is determined by this response, together with the patient's clinical condition. After the final Wassermann, should it be decided that no further treatment is necessary, the patient is told to remain away from hospital for two months, at the end of which time another Wassermann test is carried out, and if this is negative he is sent away for six months, and again comes up for blood test. Should this still be proved negative, he is advised to come up after a further six months and again in twelve months.

BACTERIOLOGICAL AND PATHOLOGICAL OBSERVATIONS ON INFLUENZA AS SEEN IN FRANCE DURING 1918.

BY

W. JAMES WILSON, BREVET MAJOR R.A.M.C.(T.F.),

AND

SERGT. P. STEER, R.A.M.C.(T.F.).

(Abstract of a Report to the Medical Research Committee.)

IN view of the tendency in certain quarters to throw discredit on Pfeiffer's bacillus as the important factor in the etiology of epidemic influenza, we think it desirable to record briefly the following observations.

During the June–July (1918) outbreak we cultivated the *B. influenzae* from 20 out of 24 specimens of sputum examined. Single examinations only were made, and our impression was that from the muco-purulent secretion of the bronchi the cultivation of Pfeiffer's bacillus could be obtained with ease, and sometimes with very few associated bacteria.

In June and July we made cultures from the bronchi in the case of 6 cadavers, and in 5 of these obtained the *B. influenzae*. In October–November (1918) we examined by cultural methods material taken at 72 separate autopsies. Cultures of the *B. influenzae* were obtained 57 times from 72 swabs from the bronchi, 12 times from 71 specimens of heart blood, 3 times from 8 pleural fluids, and once from 7 pieces of lung substance. We attach particular importance to the presence of Pfeiffer's bacillus in the heart's blood and in the pleural exudate, and appropriate tests were carried out to verify our results.

The *post-mortem* examinations were all made soon after death, and never later than twenty-four hours.

In our 72 swabs from the bronchi the occasions on which we recorded certain other micro-organisms were as follows:

Pneumococci	48
Staphylococci	43
Streptococci	42
Micrococcus catarrhalis	11
Pneumobacillus	7
Diphtheroid bacilli	3
Meningococci	2

The frequent occurrence of staphylococci is particularly noteworthy. In the majority of instances it was the *Staphylococcus aureus*. Cultures from 8 empyemata yielded the pneumococcus alone in 3 cases, the pneumococcus and the *B. influenzae* in 3 cases, the pneumococcus and *B. proteus* in one case, and the meningococcus in one case.

Cultures were made from the heart's blood by smearing loopfuls of it over the surface of agar slopes. Of the 71 specimens of blood examined, the times certain micro-organisms were encountered were:

Pneumococci	35
Streptococci	23
Staphylococci	20
B. influenzae	12
Pneumobacilli	3
Meningococci	2
Micrococcus catarrhalis	1
Diphtheroid bacilli	1

Usually several of these were associated. On eleven occasions no growth occurred.

Pathological Observations.

In June and July we made six *post-mortem* examinations of cases which had been diagnosed as influenza, bronchopneumonia, or pneumonia. Four of these were definitely cases of bronchopneumonia such as we found later in October and November, whilst the other two were examples of lobar pneumonia. Cultures made from one of these cases in which both lower lobes were consolidated yielded pneumococci and no *B. influenzae;* the other one showed grey hepatization of left upper lobe, a left-sided empyema and acute fibrinous pericarditis. This was the only case of pericarditis in our series.

In October and November we examined at autopsy 92 cases of influenza, all of them showing some involvement of the lungs.

In 23 of these cases Zenker's degeneration of the fibres of the rectus abdominis was evident in varying degree. The hyaline fibres were observed most frequently near the origin and insertion of the muscle. Along with the hyaline degeneration, or rather coagulation necrosis, in 11 cases there were haemorrhages into the sheath of the muscle, the blood being extravasated between the fibres and often causing their rupture. Whether the two conditions were in any way related we cannot state, but we have observed that often the ruptured fibres were hyaline. The most frequent site of the haemorrhage was two inches above the pubic rim and the extravasated blood could be seen showing through the aponeurosis and peritoneal coat on drawing back the flaps made by the abdominal incision. There was no discoloration of the skin over the haematoma, and in fact there was nothing on the surface to indicate its existence.

Abdominal Organs.

As regards the abdominal viscera there was nothing very noteworthy. A slight enlargement of the spleen was observed in a few cases, but hardly sufficiently marked for the organ to be palpated during life. There was engorgement of the veins as a result of the distension of the right side of the heart. In many cases there were ecchymoses in the wall of the stomach under the mucous membrane, venae stellatae of the kidneys were prominent, and occasionally there were petechiae in the renal pelves.

Thorax.

Heart.—As a rule the right side was distended with blood, and presented the usual appearance seen in death from asphyxia. Cyanosis was common. The pericardial sac invariably contained about 50–100 c.cm. of clear yellow fluid but no case showed pericarditis or endocarditis. In three cases there were petechial haemorrhages in the visceral and parietal pericardium. The anterior mediastinal tissue frequently contained air as a result of the forced inspiratory efforts.

Pleura.—In 16 of the 92 cases there was a well developed pleural exudate consisting of 500 to 1,000 c.cm. of turbid yellowish purulent fluid. In 9 cases the right side, in 4 the left side, and in 3 both sides were involved.

Accompanying the fluid there was a very thick deposit of fibrin over the surface of the lungs and extending between the lobes. This deposit readily peeled off. The lung underlying the fluid was sometimes consolidated, but more often was spongy and in a state of capillary bronchitis.

Lungs.—In practically every case haemorrhages were present under the visceral pleura. The separate haemorrhagic surfaces varied from the size of a pin's head to that of a florin. In many the haemorrhagic areas were very irregular in size and shape and the surface of the lung had a speckled blotchy appearance. Of the 92 cases there were 4 where the condition might have been regarded as lobar pneumonia, in 13 capillary bronchitis would have been a fitting description, in 8 patchy bronchopneumonia, and in 67 diffuse bronchopneumonia.

In the capillary bronchitis cases the lungs felt spongy and were distinctly emphysematous at parts and showed no areas of consolidation beyond a few haemorrhagic areas. The trachea and bronchi were deeply injected and a considerable amount of muco-pus escaped from the cut bronchioles. In the patchy bronchopneumonia cases there were scattered areas of consolidation. Some of the areas consisted of extravasated blood forming infarcts, others contained a cellular exudate

The most common condition was one in which almost entire lobes were consolidated, with the exception of their margins, which were invariably emphysematous in front. The lobes in such cases were plum-coloured, and the pleural surface was mottled with haemorrhages. On section there was an escape of much blood and serous oedematous fluid, the surface not being as dry as is the case with typical lobar pneumonia. The term "diffuse bronchopneumonia" probably best describes the condition. We were unable to associate any particular flora with the various lesions met with in the lungs. Cases of capillary bronchitis had the same *B. influenzae*, pneumococci, streptococci, and staphylococci which were encountered in those of diffuse bronchopneumonia.

During the latter months of 1917 and the whole of 1918 we had an opportunity of studying the lung condition as met with in 42 fatal cases of gas-shell poisoning. In these cases mustard gas was responsible for most of the lesions, though it may have been mixed with phosgene in many instances. We were impressed with the resemblances presented by the lungs in cases of influenza with those observed in the gas-shell wounds. The superficial burns of the skin and the necrosis of the lining of the trachea and bronchi were, of course, absent in the influenza cases, but the haemorrhages and mingled areas of emphysema and consolidation in the lungs were common to both conditions. In June we examined bacteriologically three cases of death from mustard gas, and found *B. influenzae*, pneumococci, staphylococci, and streptococci present in the bronchial secretion.

We consider that in influenza Pfeiffer's bacillus acts as a pioneer and prepares the way for pneumococci, staphylococci, and streptococci, which are able to grow and multiply in the damaged mucous membrane of the bronchi and subsequently invade the lungs and even the blood. Poison gas would seem to do the same nefarious work. In both cases there is a pronounced haemorrhagic tracheitis and bronchitis, the injection of the vessels at the bifurcation of the trachea being very intense.

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ANAESTHETICS: A MODIFICATION OF THE OPEN ETHER METHOD.

BY

J. FREDERICK W. SILK, M.D.,

SENIOR ANAESTHETIST AND LECTURER, KING'S COLLEGE HOSPITAL; LATE LIEUTENANT-COLONEL R.A.M.C., AND CONSULTING ANAESTHETIST MALTA AND THE HOME COMMANDS.

THE particular requirements of war surgery have given a great impetus to the use of ether as a general anaesthetic for routine work, and especially to its administration by the open method. The preference shown for this method is, perhaps, largely because, on paper at any rate, it seems to be so simple and so devoid of difficulty and danger. Omitting the question of safety, it will be found in practice, especially by the beginner, or if the attempt be made to use ether alone from start to finish, that the method is not so simple and easy as might at first sight appear.

In the course of the last three and a half years or more I must have paid close upon 1,000 visits to different war hospitals throughout the country, and so have enjoyed exceptional opportunities of watching the work and obtaining the views of other anaesthetists. From this experience I gather that the chief practical difficulties which present themselves when the attempt is made to use ether alone from the beginning are:

1. The period of induction is much prolonged. As much as twenty minutes has frequently been reported to me, and in some cases I have been informed that it had been absolutely impossible to get the patient under at all.
2. Nearly all patients object to the taste and smell of "straight" ether, and in those of the over-robust type and in the alcoholic this objection is frequently the prelude to respiratory spasm, lividity, and troublesome struggling.
3. In the same type of patient, too, complete muscular relaxation appears to be difficult or impossible of attainment.
4. The amount of ether used is often excessive. From 12 to 16 oz. an hour is no uncommon record, and I have known it to be even more. This, of course, is a trouble which makes itself felt by every occupant of the operating theatre.

5. The flow of mucus and saliva may be excessive, and when this is the case the patient is very apt to develop an undue amount of post-operative bronchial irritation.

Continuous practice will, of course, go a long way towards mitigating these troubles. The prior injection of morphine and atropine, especially the latter in tolerably large doses, is also a great help, particularly with regard to the excessive salivation and tendency to bronchial irritation.

Usually, however, the anaesthetist seeks to overcome the difficulties by starting with a little chloroform or "mixture" (equal parts of chloroform and ether, or 1 of chloroform to 2 of ether, or 2 to 3). This is generally administered upon the same mask as prepared for the ether alone—that is, twelve to sixteen layers of gauze with an underlying face-pad, and the patient is carried to the stage of complete anaesthesia, and the pure ether is substituted as soon as it is thought that he will no longer resent the change. In many, perhaps in the majority of instances, this plan succeeds well enough for all practical purposes, but in rather a large number of cases a tendency to respiratory and cardiac failure develops in the course of two or three minutes after the change to pure ether has been made. I believe myself, too, that in some cases deaths have resulted in this way.

To explain these untoward results, it has been suggested that the face-pad and thickish layer of gauze or lint used in the open ether process do not permit of a sufficient dilution of the vapour with air, as is so essential for the safe administration of chloroform, and that when the gauze is wetted, particularly with the heavy, semi-viscid chloroform liquid, an almost impervious or closed system is formed, with momentary accumulations of dense chloroform vapour immediately above the mouth. At any rate, it is quite clear that if chloroform or one of the strong mixtures be used for induction, the face-pad should be discarded, an entirely separate and much thinner mask employed, and the patient must be most carefully watched for the faintest indication of respiratory or other failure. Slight as these changes really are, they suffice to rob the open ether process of its simplicity, and therefore are seldom adopted.

Looking about for a means to overcome these difficulties, my attention was attracted by Dr. McCardie's excellent paper on "A Method of Anaesthetizing Soldiers," which appeared in the BRITISH MEDICAL JOURNAL of April 21st, 1917, in which he advocated the use, in a Clover's inhaler, of a mixture of 1 part of chloroform to 16 of ether. I proposed, therefore, to use this combination of 1 in 16 in lieu of the stronger mixtures alluded to above. Before doing so, however, I took the opportunity when in Birmingham to discuss the subject with Dr. McCardie. He expressed his doubts about my proposal, and said that he thought the same objections would apply to his 1 in 16 mixture as to the stronger ones. However, I gave the combination a trial, and, although it succeeded admirably in many cases, it obviously required careful watching, and in some few instances I received rather adverse reports about it.

I then experimented with various combinations of the two drugs, and have finally settled upon a mixture of the following proportions:

Chloroform	1 drachm
Ether	32 drachms (4 oz.)

This, it will be seen, is approximately 3 per cent. of chloroform in ether, or a very little stronger (3 in 99).

In using this attenuated mixture I have found that the following are the chief points to be attended to. Although not essential, it is of advantage that the patient should have a preliminary injection of morphine ($\frac{1}{6}$ grain to $\frac{1}{4}$ grain) and atropine ($\frac{1}{100}$ grain to $\frac{1}{50}$ grain). The face-pad and mask is the same as for open ether, the mask being closely applied to the face and face-pad from the very beginning. The liquid is used exactly as if it consisted of ether alone, the presence of the small quantity of chloroform being ignored. During induction the liquid is poured freely on to the mask just to the verge of resentment, but when consciousness and reflexes are abolished, it will suffice to reduce the supply to the dropping stage. If at any time during the course of the operation it be thought that the anaesthesia is not sufficiently deep, there need be no hesitation about increasing the amount. Needless to say, the same care in watching and maintaining the breathing are required in this as in any other method of anaesthetization; the plan makes no pretence to be "absolutely fool-proof."

In my own hands and in the hands of many others who have tried it, the combination used in the way indicated has given excellent results. The advantages that I would claim for it are:

1. *Simplicity.*—There is no need to change the drop bottle or mask, or to remove the face-pad, which are the same as for the original open ether method.

2. *Rapidity.*—As the result of many careful time tests I have found that the patient is well able to be moved in about five minutes, and that the first incision may be made in another minute or so. At the outside, ten minutes should complete the whole process. This is a very great gain as compared with a possible twenty minutes—a gain both to the patient and the temper of the surgeon.

3. *Lack of Irritation.*—It is really quite remarkable how the addition of such a small quantity of chloroform should go so far in the direction of converting the pungent ether into a comparatively bland vapour. The consequence is that the patient has much less objection to the inhalation than when pure ether is used; there is also less respiratory spasm, less lividity, and the struggling is practically limited to the simple movements of the stage of excitement.

4. *Efficiency.*—This, of course, is a point upon which longer experience is desirable, but so far I have never had any difficulty in obtaining a sufficient degree of relaxation to satisfy the requirements of any of the surgeons with whom I have worked, and the depth of anaesthesia can be very readily regulated.

5. *Economy.*—The greatest expenditure of the liquid is naturally during the induction stage, but that seldom exceeds a couple of ounces, and I have estimated that for the maintenance of anaesthesia subsequently from 4 to 6 oz. per hour is ample. This is a very great saving and comfort to all concerned.

6. *Safety.*—Neither this nor any other anaesthetic can claim to be absolutely safe, nor can it be said that care and attention on the part of the administrator are less valuable assets than with any other drug or combination. On the face of it, however, I think that it is obvious that the possibilities of over-dosage with chloroform are much diminished when the half-drachm required for induction is diluted in two ounces of ether, given in ten rather than in two minutes, and that a drachm to a drachm and a half used in the course of an hour is but little likely to do much harm.

The flow of mucus and saliva and the subsequent tendency to respiratory irritation are much diminished, but I do not claim that this is to be wholly placed to the credit of the mixture, but rather to the routine use of full doses of atropine which I have always advised. I should point out, however, that on account of its relative rapidity of action the 3 per cent. mixture will be found useful to those who adopt the open ethyl chloride–ether sequence. In fact, I have myself made a few quite satisfactory experiments in the direction of using liquid ethyl chloride in lieu of chloroform, but I have not followed up this line of work, although I believe that it may be worth while doing so. One of the objects of this communication is to establish the principle of what I would call "attenuated mixtures," and to endeavour to show that "straight" chloroform or strong mixtures are by no means essential as an induction to open ether, but that, on the contrary, they introduce unnecessary risks in the open ether method.

TREATMENT OF ECZEMA BY RECTAL SALINE INJECTIONS.

BY PERCY B. SPURGIN, M.R.C.S., L.R.C.P.

THE balneological treatment of certain forms of skin disease is nothing new; the internal administration of drugs as a means of cure is well recognized, and is, in certain cases, useful not only to alleviate symptoms but, in certain conditions, to cure the complaint.

The internal treatment, by means of saline injections into the bowel, is, I believe, something out of the common, and the following history, considerably condensed, of a very severe case of generalized eczema treated by this method, may be of interest to your readers.

C. M., aged 49, enlisted in August, 1915, and went to France shortly afterwards with a labour battalion. After being in France for twenty-five months, during which time he had fair health, he was sent home to England because of swelling of his ankles and feet. He was admitted to a military hospital and remained there for three weeks; he was then transferred to another military hospital, where he was a patient for three months. His knees were still swollen when he was discharged to a labour centre and recommended for a discharge centre.

Two days before his discharge was due he was taken ill and admitted to the hospital of which I was in charge on February 5th, 1918. He was a tall, spare man, in poor condition; the temperature was 97° F. There was confluent eczema on forearms and hands, which was beginning to discharge, and some patches on front of chest, face, and neck. Three days later the ears and neck were covered with crusts, from under which pus was oozing; fomentations did not relieve the condition. On February 12th his condition was getting worse; the temperature was 99.8°; he was having daily bran baths. On February 16th the temperature had risen to 100.4°; he was now covered with eczema, the trunk, arms, thighs and neck, also the face in part, being crusted over; from beneath the crusts was exuding thick offensive pus. Up to this time the patient had been taking his food pretty well. Three days later he was feeling worse and taking food badly, although sleeping well. The temperature was 101° F.

He grew very weak and emaciated and the temperature kept up until March 2nd, when it dropped to 97.6°. On this day he felt very cold, but was otherwise comfortable. Large patches were becoming detached, and pus was still oozing from beneath the crusts; the stench was very bad. He was taking food fairly and sleeping pretty well. He developed some catarrhal bronchitis a few days later, but this cleared up after a week on ordinary expectorant treatment. The crusts were still coming away in large pieces, leaving a raw purulent surface.

On March 24th the hands and wrists were very swollen; the temperature was 100°; the eczema extended all over his trunk, back and front, and on every limb. Two days later the knees were very swollen, and the temperature rose to 101.2° on the following day. By April 6th he was worse, with severe pains in his left arm and both knees. He was treated with colchicum mixture; he was too weak to continue the baths. The suppuration had lessened considerably. The next day he was very low and wandering in his speech, but he improved on stimulants and aspirin and slept a little. By April 22nd he was very ill indeed; the respirations were irregular and shallow, almost Cheyne-Stokes in character. He rallied again after stimulation, and for the next few days there was nothing to note specially, although he was getting steadily weaker, and was like a living skeleton. His joints were still swollen, and he was in considerable pain, taking very little nourishment, and having but little sleep, in spite of hypnotics. On June 13th he was very collapsed and in an extremely critical condition, and the pulse was rapid and weak, and the motions blood-stained. June 15th saw him with a very bad colour, pulse weak and thready, and unable to take his food. He had not slept. Morphine induced a good sleep, though of short duration, but he took food better during the night, and was fairly comfortable. On June 17th the pulse was hardly perceptible. A simple soap enema, followed by a rectal saline containing sp. vini gallici 1 oz., was given and retained. Next day there was a slight improvement; he was sleeping and taking food better. Two days later there was a noticeable improvement, the patient was eating better and sleeping well. Saline and brandy were given every other day, after clearing the bowel with soap enema. By June 23rd he had markedly improved, was much stronger, and was bright and cheerful. The eczematous condition was rapidly clearing away, the swelling of the joints was lessening, although he still complained of considerable pain. Appetite was good and sleep sound. The leg pains were severe next day, but twenty-four hours later were much less and his general condition better. During the next fourteen days, excepting a slight rise of temperature on June 29th, accompanied by sharp pains in the limbs (the weather was very wet), he made steady progress. He was much stronger, eating and sleeping well, and was bright and cheerful. His skin was much improved, clean and healthy. He continued to gain in strength and weight. The salines had been continued every other day. On August 14th the patient got up for the first time for over four months. By this time the skin was practically clear, and the appetite, sleep, and general state entirely satisfactory. By the beginning of September he had remarkably improved, he was getting up on alternate days, the odd days being given for the salines and rest in bed.

Progress during the month was well maintained, the patient had been out in a bath chair several times, and by the end of the month he was able to stand and to walk a few yards, with support. From this time ownwards convalescence was steady and uneventful; he was stronger every day and fattening visibly. The knee-joints were still much enlarged, but there was no pain. After a time he was discharged the service, owing to chronic gouty arthritis.

Some years ago it was noticed, during an epidemic of infantile diarrhoea in Paris, that certain infants suffering from eczematous conditions of the skin, while under the saline treatment for their diarrhoea, were much improved as regards their skin troubles. Remembering this, I was induced to try the effect of salines on my patient; the result shows very markedly the effect of saline on the metabolism. The patient was apparently past all help when this form of treatment was commenced, and the really extraordinary change which took place in a few days was deeply interesting and gratifying.

To the nursing staff who carried out my suggestions so carefully, to the R.A.M.C. orderly who never spared himself in time or trouble, I owe my best thanks, and to Colonel Kay my thanks are due for permission to publish this case.

AN UNUSUAL CASE OF HAEMORRHAGE FROM TONSILLECTOMY.

BY

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THE following case presented the complication of obstinate haemorrhage to a degree which is, fortunately, unusual.

A girl, aged 13 years, was on April 9th, 1919, anaesthetized (CE_2), with the head extended over a sandbag, for the enucleation of submerged tonsils by dissection.

The left tonsil shelled out easily, quickly, and nearly bloodlessly. On the right side, as soon as the upper half of the tonsil had been separated from its bed, copious bleeding began. This welled up from the extreme depths of the fossa, from a point entirely concealed by the anterior pillar, and from about half-way up the fossa. In colour the blood was arterial; an inability to detect pulsation may have been due to the depth of the bleeding point. This was probably either the tonsillar branch of the facial artery, or a tributary of the pharyngeal venous plexus.

Artery forceps failed to control the bleeding. Wagner's clips failed to grip the posterior faucial pillar; perhaps this was due to spasm of the palato-pharyngeus, for the patient was by now only lightly anaesthetized, and with the pharynx constantly and rapidly refilling with blood it was both difficult and dangerous to keep her under. With a cleft-palate needle three sutures were passed through anterior and posterior pillars, and these were sewn together over a strip of ribbon gauze; this also failed to stop the bleeding, and with repeated spasm one stitch cut out. A Cullum's clamp was now tightly applied, with temporary success. In order that the patient might tolerate the clamp she was, after removal to bed, kept lightly under morphine.

Nine hours later CE_2 was again given and the Cullum's clamp gingerly removed. Bleeding was, if anything, more profuse than before. Swabs and artery forceps were again tried fruitlessly. Cullum's clamp was reapplied while the external carotid was tied at its origin; the clamp was then removed.

The possibility of an abnormal tonsillar blood supply was suspected for the following reasons:

1. The common carotid had a high bifurcation—slightly above the hyoid level—and no superior thyroid branch could be seen. It seemed, therefore, likely that other arterial abnormalities might coexist.

2. Occlusion of the external carotid checked the bleeding almost entirely, but, for the moment, not absolutely. For these reasons the possible existence of a tonsillar branch from the internal carotid was surmised; and, as a safeguard, a second ligature was left loose around the common carotid, to be tightened if necessary. The slight residual oozing, however, stopped entirely in a few minutes; and this loop around the common carotid was removed in twelve hours. The after-history is as follows:

The blood lost was not measured, but the patient retained 1½ pints of saline in the rectum and 2 pints more subcutaneously. No serum was given nor calcium salts. But as a precaution against delayed poisoning after two anaesthesias with a chloroform mixture, the patient was given sugar dissolved in milk. The mouth was constantly cleansed by alkaline swabs and the post-nasal space by a nasal douche. The right tonsil (of which the removal had never been completed) sloughed out piecemeal, doubtless as the result of cutting off its blood supply; and two weeks later both tonsillar fossae were clean and empty. There was found to be no albuminuria, nor any blood dyscrasia which could aggravate bleeding. Thus a count of haemoglobin, colour index, and white cells, and a differential count of the latter by Dr. Sanguinetti, revealed only a simple secondary anaemia, which was the only obvious disability of the patient when she was sent to a convalescent home on the twenty-eighth day.

Commentary.

Branches of the descending palatine arteries, or other bleeding points in or near the faucial pillars, are relatively easy to identify and pick up with artery forceps. Bleeding from invisible points deeper in the fossa (the tonsillar branch of the facial, a branch from the dorsalis linguae artery, or a tributary of the pharyngeal venous plexus) of ordinary degree is usually stopped permanently by clips or ligaturing the faucial pillars. Cullum's clamps (or any other pattern which acts similarly) are easier to apply, and usually effective; but the control obtained is not always lasting. In this case, after the clamp had been on for nine hours, the bleeding recommenced still more freely on its removal. The fear of fatal sloughing contra-indicates leaving the clamp on for too long.

In the reporter's experience either stitches or Wagner's clips have succeeded invariably, except in this case, in

which the bleeding was so profuse that the accurate application of either of these was impossible. This case exemplifies a point of the utmost importance—that the complete removal of tonsils (in contradistinction to mere tonsillotomy) is not, as the general public are apt to think, a simple minor undertaking. It is an operation entailing the heavy responsibility which must attend any surgical procedure liable to dangerous complications.

Abstract of the Harveian Lecture

ON

NERVES IN AMPUTATION STUMPS.

BY

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THE lecturer pointed out that the subject selected—nerves in amputation stumps—was the continuation in a special domain of the more general lecture (Arris and Gale) delivered at the Royal College of Surgeons.

Nerves, as contrasted with other structures, have, he said, the peculiar power of regenerating. They grow again so as to re-innervate, or neurotize, a part that has been de-innervated. In the case of amputations the de-innervated portion has been removed by operation, robbing the regeneration of its object. The result is that the growth is wild, and it invades every contiguous structure, such as bones, vessels, muscles, etc., like a malignant growth permeates them. The growth exhibits a pseudo-malignancy, and, by growing between the cells, defeats all methods devised to arrest the progress of regeneration. This is a fact well worth bearing in mind, and the memory of it may stop much waste of surgical energy and time.

1. The immediate pain consequent on an amputation is due to the injuries inflicted on the nerves at that operation. It passes away in a few days.

2. The early pain after an amputation is due to the ends of the nerves, if not cut short, taking part in the general repair of the wound. If the repair is infective there is an infective neuritis, such as was exhibited in the sections shown at the Royal Society of Medicine in April, 1918. If precautions are taken to cut the nerves short and close their open mouths in a simple way, as by the swing-door method, the interior of the nerves are not infected from the wounds.

The three practical points arising from this are:

1. Cut short the divided nerves.
2. Close the mouths of divided nerves.
3. Avoid all wound infection, such as by avoiding handling and manipulation, which are the great causes of low-grade infections such as are not necessarily suppurative.

The healing of a wound by first intention in clinical work does not preclude the presence within it of low-grade infection. Nerve anastomoses mean much manipulation and are therefore banned. The swing-door method[1] is the best and simplest method. Nothing is left behind in the wound which has been touched.

The causation of remote pain is more complex. Three factors are now known:

1. Infective inflammation and its results, islands of fibrous tissue, within the nerve. Cultures have been obtained from nerve endings three years after complete healing of the wound. The organisms were shown by Professor Marinesco at the meeting of the Royal Society of Medicine in April, 1918.

2. The presence of foreign bodies, much insisted upon by Professor Marinesco. This includes metal, silk, and, if the words "foreign bodies" are given a large sense, all material such as fibrous tissue in the interior of a nerve ending.

3. The mental factor, due largely to illness, prolonged hospital stay, lost jobs, inability to take up new ways and interests, etc. It is a very large factor, probably larger in people who have lost limbs than in others.

There may be still more factors, such as that due to vessels trying to expand or contract in tissues permeated by fibrous tissue, but at present their clinical importance is unknown.

Three items of practical value stand out in this:

1. Do not use silk in infective wounds.

2. Do not keep men herded together in homes and hospitals longer than necessary.

3. Get them back to some kind of work, which will absorb their attention and take it off their condition, as soon as possible.

Under the saw-divided end of the bone there is and must be a "dead space" which gets filled with such scar tissue as is formed by the repair of the deeper parts of the wound. If this heals quickly and well, there are very few organisms in this internal scar. If, however, there is deep suppuration, the "dead space" is filled with irritant infective scar tissue. This irritates the bone, causing new bone formation; irritates the muscles causing their reattachment; and gives rise to pains in the stump which cannot bear pressure, slowness in healing with local oedema, and inability to encapsulate surely foreign material (silk and iron). This infective scar tissue is slowly sterilized by the fluids of the body, but if it remains irritant the new nerves formed by regeneration grow into it and the equation of nerve *plus* inflammatory focus equals pain becomes satisfied.[2] It was also suggested that sensations, perhaps short of pain but responsible for phantom limbs, might result if a new ill protected nerve fibre came in contact with a focus of repair. Reference was made to such a man who had a well marked focus of repair on the internal saphenous nerve in his Hunter's canal. When this was removed he recovered slowly. Be this as it may, the clinical fact remains unaltered that operation often fails to relieve such pains immediately. Such is to be expected. The very operation itself will lead to repairs in nerves amongst other structures, and the patient will have stored up memories of past operations, pains, and phantoms. With such a combination any hope of immediate cure is futile, but operation often causes some alteration, as in the phantom which has become immovable, then there is hope.

Slides demonstrating the quasi-malignant invasion of nerves into a tendon, an infected clot, in nerve coats, muscles, capillaries, arteries and bone, were shown.

The branching and anastomoses of the new nerves must lead to many complicated stimuli arriving at the brain for interpretation. This must lead to frequent variations in the quality and quantity of the sensations and symptoms so produced.

The very great difficulty which the nerve encountered when trying to progress through actively proliferating scar tissue was shown by the nerve spirals and the button-shaped nerve ends. The latter was an exaggeration of the former, the nerve filament having yet greater difficulty in advancing. This teaches a very practical lesson in nerve suture. The ends of the nerves must be so approximated that little scar tissue can be formed for the nerves to grow through. Apparently the nerves grow easily through muscle, but they make little headway through connective tissue. The scar in the skin gets innervated by the regeneration of the nerves. This was shown beautifully in a preparation made by Professor Marinesco.

In conclusion, it was said that the great cause of pain was inflammation, and the causation of phantoms was found in the mind and possibly in the association of foci of repair with nerves.

REFERENCES.

[1] *Proc. Roy. Soc. Med.*, April, 1918. [2] BRITISH MEDICAL JOURNAL, June 15th, 1918.

AT the first meeting of the Zinc and Spelter Joint Industrial Council held at the London Chamber of Commerce on May 13th, Dr. T. M. Legge, Medical Inspector of Factories, Home Office, informed the committee that there had been a decided reduction in the number of cases of lead poisoning and Bright's disease owing to the great structural improvements in the various works. The decline, however, was smaller than it was hoped for, and he invited both sides in the industry to co-operate in reducing the causes of these diseases. Statistics showed that they were almost entirely caused by the dust and fumes given off during the process of smelting.

Lettsomian Lectures

ON

JAUNDICE: WITH SPECIAL REFERENCE TO TYPES OCCURRING DURING THE WAR.

BY WILLIAM HENRY WILLCOX, C.B., C.M.G.,
M.D LOND., F.R.C.P.LOND., COLONEL A.M.S.,
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LECTURE II.—PART II.

JAUNDICE DUE TO SPECIFIC FEVERS AND INFECTIONS.

RELAPSING FEVER (CHARTS 1–6).

RELAPSING fever is due to blood infection by the spirochaete of Obermeier, the mode of transmission, as shown by Mackie, being through the louse. The disease is endemic in Mesopotamia, Persia, and Egypt, and, in consequence of unavoidable association with the natives who were employed in labour corps, etc., infection spread to some extent to our troops, and I have had exceptional opportunities of studying the disease not only in British, but also in Indians, Arabs, Persians, and Egyptians.

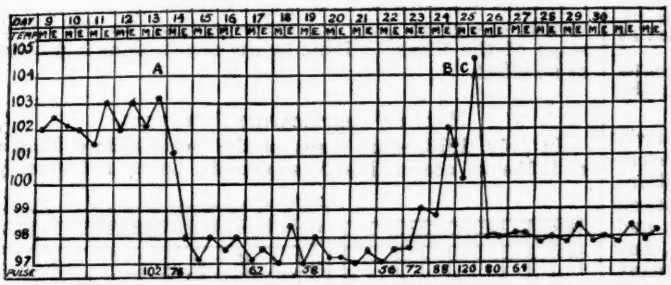

CHART 1.—Relapsing fever (British). A, Blood negative to spirochaete; B, blood positive. C, Salvarsan 0·3 gram. Note the period of apyrexia from the fifteenth to the twenty-second day.

The onset of the disease is sudden and acute. Jaundice occurs quite early, often on the first or second day; it is usually quite marked and in some cases deep.

Captain M. A. Nicholson, I.M.S., from a careful examination of 241 cases at the Isolation Hospital, Baghdad, most of which I saw with him, found jaundice present in 64 per cent. This figure is interesting because in a recent paper[18] on spirochaetosis icterohaemorrhagica by Stokes, Ryle, and Tytler, the estimate of 60 per cent. is given for the occurrence rate of jaundice, which is in very close agreement with our figures for relapsing fever in Mesopotamia.

Enlargement of the liver was observed in 41 per cent. of the cases. Jaundice in relapsing fever is due, no doubt, to a catarrh of the fine bile ducts. Anaemia was not usually produced, and symptoms pointing to severe degeneration of the hepatic cells (icterus gravis) were generally absent. In cases which terminated fatally the symptoms were those of bacterial toxaemia, and not, like those of auto-intoxication, from defective liver function. In the above series of cases the gross mortality was 5 per cent.; British 0 per cent. (44 cases), Indians 8 per cent. (135 cases), Arabs 1 per cent. The variation in the symptoms of a disease in consequence of racial differences was most marked in Mesopotamia, and relapsing fever was an excellent example.

In the treatment of relapsing fever very great success was obtained from the intravenous injection of 0.3 gram of kharsivan; no toxic effects were observed from its use. Usually the temperature fell to normal within from ten to twenty-four hours, and relapses were rare, occurring in only 5 per cent. of the cases. The dose of kharsivan was by my advice purposely kept as low as possible consistent with effective action of the drug, for it was fully realized that the toxins of relapsing fever were liver poisons, and that the greatest care was necessary in the use of an arsenobenzol compound which, as already pointed out, has a powerful toxic action on the liver.

MALARIA.

The profound action of the malaria parasite on the red blood corpuscles has been closely studied, and jaundice would, in consequence, be expected to occur in malaria; in severe cases it is commonly present.

The malaria poison has not a specially marked action producing degeneration of the hepatic cells, so that "icterus gravis" does not result. The severe symptoms in bad cases of malaria are due to the direct action of the toxins on the body. In severe cases the malaria poison undoubtedly causes catarrh of the finer bile ducts, and this, together with the increased amount of bile pigments, results in jaundice. The colour is yellowish, but not usually of the deep yellow associated with a complete obstruction of the bile ducts; the stools are not pale in colour, and bile pigments are generally absent from the urine or only present in traces. In cases of mild type, in which deep jaundice with pale stools is present, there is probably some other factor, such as an epidemic catarrhal infection, also operating.

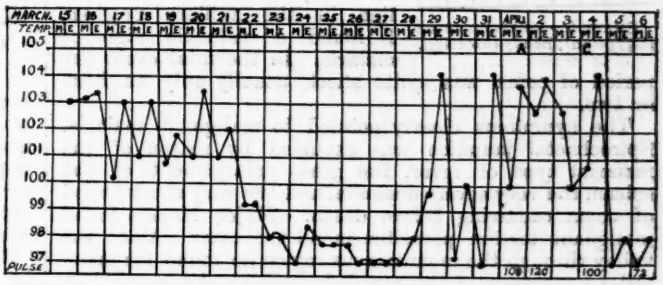

CHART 3.—Relapsing fever (Indian). A, Blood positive to spirochaete. C, Salvarsan 0.3 gram. Six days' apyrexia.

The occurrence of jaundice in malaria was brought directly to my notice in two interesting outbreaks amongst the troops in the Mesopotamian Expeditionary Force. In September, 1918, several fatal cases of jaundice were reported in a camp in Northern Persia situated at an altitude of some 5,000 feet above sea level in a mountainous district. It was suggested that these cases might be due to the newly described spirochaetosis icterohaemorrhagica, and anxiety was felt as to the spread of infection. Acting on orders, Major Mackie, I.M.S., and myself at once proceeded to investigate the outbreak. The following is a short history of two of the cases.

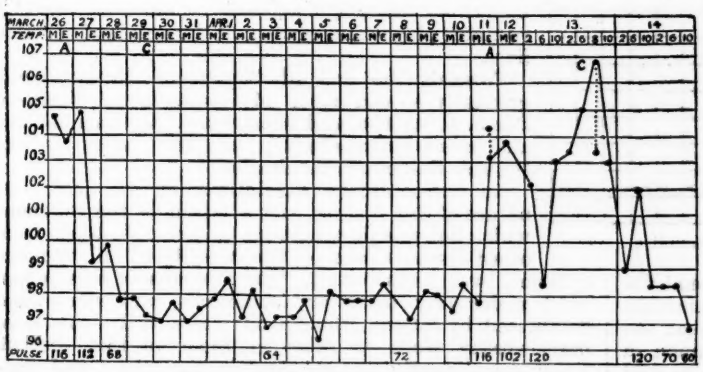

CHART 2.—Relapsing fever (British). A, Blood positive to spirochaete. C, Salvarsan 0.3 gram. Note long period of apyrexia, thirteen days instead of eight.

CASE I.

Private P. was admitted to hospital on August 24th, 1918, suffering from weakness and severe anaemia, with fever (102° F.); there was marked enlargement of the liver and spleen. Intermittent pyrexia with maxima on alternate days continued. On August 28th vomiting and shivering occurred, with two attacks of epistaxis; marked jaundice was present. At 4 p.m. on August 29th he was quite conscious, but the respirations were quickened, and the pulse rate increased; at 5 p.m. he became collapsed and comatose, and died on the following day (Chart 7).

Post-mortem examination showed the liver to be greatly enlarged and pigmented, and the spleen about four times the normal size. Small haemorrhagic patches were present in the lower part of ileum and upper part of colon.

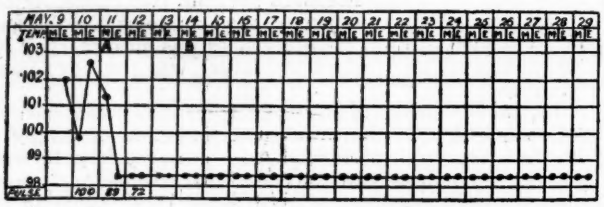

CHART 4.—Relapsing fever (Arab). A, Blood positive to spirochaete. B, Kharsivan, 0.3 gram.

CASE II.

Private T. was admitted to hospital on August 29th, 1918, complaining of pain in the upper abdominal region and weakness; he was extremely anaemic, and there was marked enlargement of the spleen and liver. On August 31st considerable jaundice was present. On September 1st he was worse, and the urine contained albumin in small quantity. At 4 p.m. he was quite conscious but weaker, and respirations were increased to 36. At 4.45 p.m. he became comatose, and died at 5.15 p.m.

On *post-mortem* examination the spleen was seen to be dark-coloured, and about three times the normal size; the liver was pigmented and much enlarged.

In these two cases and many others examined (Charts 3, 9) the same type of symptoms occurred—severe anaemia, jaundice, intermittent pyrexia with maximal rises on alternate days; the spleen and liver were greatly enlarged, and nose bleeding occurred in many cases. In some the vertical extent of the liver dullness in the anterior axillary line was much increased. A greatly increased vertical extent of liver dullness, the upper border being a straight and not a curved line in the axillary region, I found a valuable sign of malaria. In the fatal cases the period of coma was quite short, usually only an hour or two.

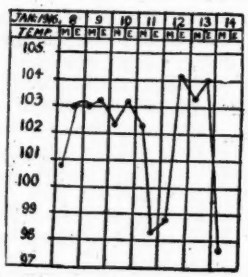

CHART 5.—Relapsing fever (Egyptian); heavy infection.

The symptoms clearly pointed to malignant malaria. Spirochaetal jaundice was excluded by reason of the malarial type of fever, the great enlargement of the spleen, the very severe anaemia, and the very short period of coma occurring before death. Major Mackie found malignant tertian parasites in all the cases. Along the valley through the mountainous region he found for many miles a mosquito of the anopheles type, and succeeded in obtaining specimens showing definite malarial infection of the salivary glands and stomach.

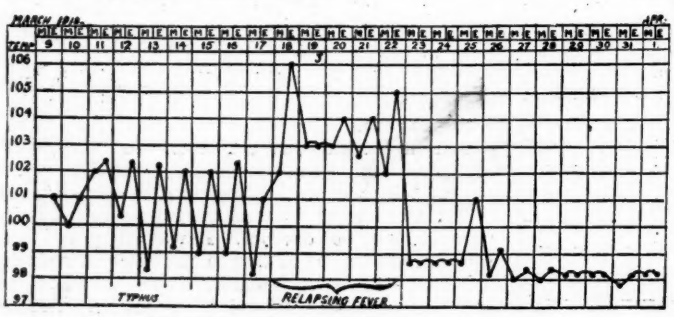

CHART 6.—Typhus and relapsing fever (Arab). J, Jaundice

The investigation was of great interest, because at the high elevation of the district, and the absence of marshes or swampy ground, it might have been expected that the country was non-malarial. Mosquitos were not much in evidence; careful search was indeed necessary to find them, but nearly all in the district were of the anopheles type and dangerous carriers.

The road to Northern Persia runs through valleys at high altitude, fine mountain ranges stretching on either side. Mountain streams of clear crystal water run along the valleys, but after the snows have melted they tend to run dry, and the current is slow. At this time the mosquitos breed in the little pools left in the bed of the streams, and this period—July, August, and September—is a most dangerous malarial season in Northern Persia. I obtained additional proof of the malarious nature of this beautiful mountainous region by the examination of forty-five Kurdish children, natives of the district, under 10 years of age, who were attached to a local labour corps for famine relief purposes. In 33 per cent. of them the spleen was palpable and definitely enlarged.

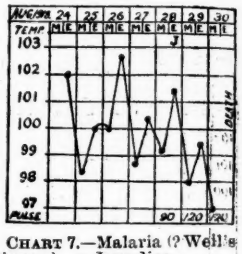

CHART 7.—Malaria (? Weil's disease). J, Jaundice.

Treatment of the cases of malarial jaundice once or twice daily with quinine bi-hydrochloride gr.x in 5 c.cm. of water for intramuscular, or in 10 c.cm. of normal saline for intravenous, injection gave excellent results. The intravenous injections were given in the more severe cases. After four or five days the injections were discontinued, and quinine gr. xxx by the mouth was given daily for three weeks. In the acute stage of the illness quinine by the mouth alone had little or no effect.

MALARIA COMPLICATING INFLUENZA.

In July, 1918, some cases of the world-wide epidemic of influenza occurred in Mesopotamia, being undoubtedly brought there by new arrivals from India. The epidemic was limited to certain Indian labour corps working in isolated districts; it did not spread to any extent. In September, 1918, the epidemic again visited Mesopotamia, owing, no doubt, to fresh infections from India by men returning from leave; this time the infection spread with great rapidity and few escaped.

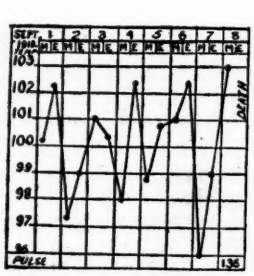

CHART 8. — Malignant malaria and jaundice.

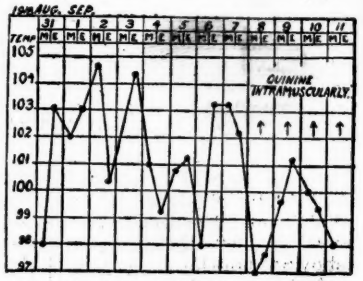

CHART 9.—Malaria (M.T.) and jaundice. Recovery.

Owing, I am sure, to the open air life that every one led at this time of the year in Mesopotamia, the cases were, generally speaking, very mild, with usually only two days' fever. The mortality was very low indeed, and very few cases of pneumonia occurred. The Arabs also, owing to their good physique and open-air life, although attacked by the epidemic, came to no harm. This, I understand, is in marked contrast with what was happening in England, where influenza was a veritable plague and carried off thousands of valuable lives.

Towards the end of September the epidemic gradually spread from Mesopotamia to Northern Persia along the road constructed over this difficult and mountainous country by our force; it was the sole link of communication.

An extraordinary illustration of the infectious nature of this disease, and a lesson in the influence which unhygienic conditions and complications from other diseases have on the severity of an influenza epidemic was forthcoming. The Persians in this region lived under very insanitary conditions, and were most debilitated by famine, though our force had done most praiseworthy work in relieving them in this respect. They were greatly overcrowded in the stone and mud dwellings (the apologies for houses) in which they lived, for at that time the nights were colder than in England, and as a consequence the mortality was high and thousands died.

The infection spread amongst our troops, and, in spite of the hygienic precautions taken, a considerable number of deaths occurred. In October, 1918, under special orders,

I visited Northern Persia in consequence of the severity of the epidemic amongst our troops. The hospitals were filled with patients, and I was struck by the character of the symptoms displayed. In addition to the usual symptoms of influenza, a large proportion (about 90 per cent.) of the patients showed anaemia, slight but definite jaundice, and marked enlargement of the spleen and liver. It was obvious that some complicating factor was present, and that this was malaria. Blood examinations were made, and in all these cases malaria parasites were found. Major Christie, I.M.S., who has had great experience of malaria, examined a great number of these cases, and found that in about 40 per cent. the malaria parasites were of the malignant tertian type.

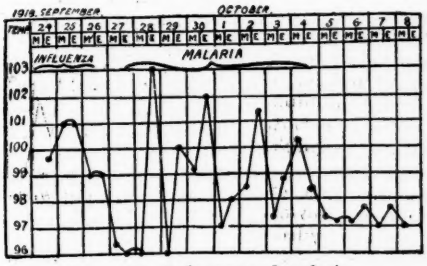

CHART 10.—Influenza and malaria.

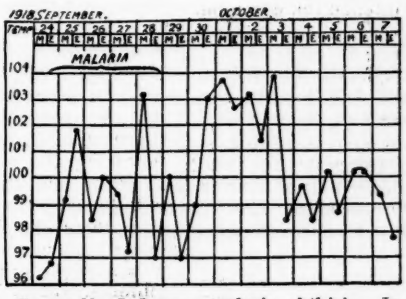

CHART 11.—Influenza, malaria, phthisis. Influenza before admission. From September 30th consolidation of right apex; phthisis.

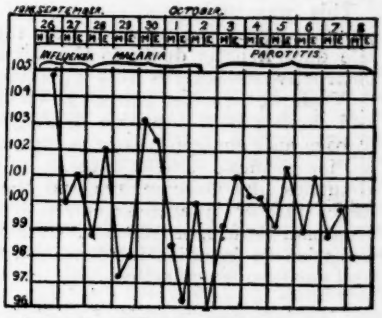

CHART 12.—Influenza, malaria, parotitis.

It was the malarial complication which was accounting for the high mortality of the influenza epidemic in our troops in this region (Charts 10–12). A relatively small proportion had pneumonic complications, but even these showed malarial infection in addition. Treatment of these cases with injections of quinine hydrochloride, as above described, gave excellent results. The epidemic subsided after about three or four weeks. It was a great illustration of how an epidemic of influenza could set alight to a previous existing but quiescent infection, malaria, with accompanying toxaemic jaundice in most of the cases.

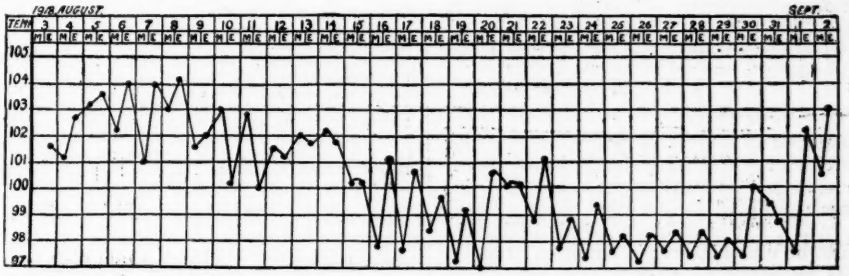

CHART 13.—Paratyphoid A with jaundice. Chart commences on the sixth day of jaundice.

BLACKWATER FEVER.

This pernicious type of malarial haemoglobinuria is common in the Gold Coast region of West Africa.

Three cases were seen by me in Northern Persia in 1918. In Mesopotamia I saw several times, in consultation with Lieut.-Colonel Skinner, R.A.M.C., a member of his unit who had been heavily infected with malaria in Salonica, and developed a typical attack of blackwater fever after several months' residence in Mesopotamia; the cause, no doubt, was the Salonica infection. In all these cases a slight but definite jaundice developed within twenty-four hours of the onset; it deepened, but never approached the limit of complete obstruction. The earlier development of jaundice is a characteristic feature of blackwater fever. The prime factor in its causation is the enormously rapid destruction of red blood cells.

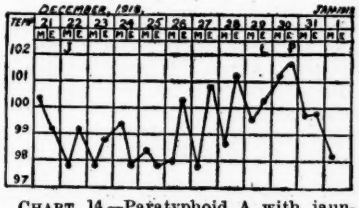

CHART 14.—Paratyphoid A with jaundice; admitted to hospital December 9th, 1918, for D.A.H.; temperature rose December 18th. J, Jaundice. L, Leucopenia. P, Paratyphoid A isolated from stools.

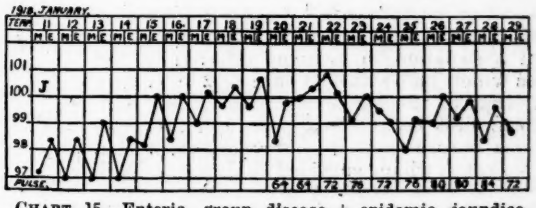

CHART 15.—Enteric group disease + epidemic jaundice. Chart commences on sixteenth day of illness; jaundice marked. From January 14th enteric group pyrexia; neuritis (left gluteal). J, Jaundice.

ENTERIC GROUP DISEASE.

In enteric fever jaundice has been observed; thus Osler states[19] that in his series of 1,500 cases jaundice occurred in 8 (0.5 per cent.) and cholecystitis in 15 (1.3 per cent.). Murchison regarded jaundice as an extremely rare complication of typhoid fever. There is no doubt that in the enteric group disease of the Dardanelles and Mesopotamia jaundice was a comparatively common symptom both in enteric fever and in paratyphoid A and B. The percentage occurrence was much higher than in Osler's series, probably over 5 per cent. Accurate figures will be forthcoming later, since in Mesopotamia careful records of all enteric group cases have been kept in special tabulated registers. At Cape Helles (Dardanelles) in 1915 Captain Campbell, R.A.M.C., found paratyphoid organisms in 9 cases of jaundice with continued pyrexia, 5 being paratyphoid B. He also found paratyphoid B in the bile from a case of suppurative cholecystitis operated upon.

In Mesopotamia several cases showed on bacteriological examination infection of the bile with enteric or paratyphoid A or B organisms (Charts 13–15).

The commonest time of onset of jaundice in enteric and paratyphoid fever is towards the end of the second week. I have seen, however, several cases in which jaundice occurred within the first six days, and in a few it was present at the onset of the symptoms. In one case it did not occur until the twenty-ninth day of the disease. The diagnosis was determined by finding the organisms in the blood by culture.

Thus there appears no reason to doubt that jaundice due to obstructive catarrh of the small intrahepatic bile ducts occurs in the three forms of enteric group disease, and I am of opinion that this obstructive catarrh is usually in such cases directly due to the particular enteric group organism present, and not to a secondary infection. This view receives confirmation in a case which occurred in the Dardanelles.

CASE III.

Jaundice developed on the third day after admission to hospital, and death ensued six days later from sudden collapse. At the *post-mortem* examination the duodenum was found of a red velvet appearance, and the walls of the common bile duct

and hepatic ducts showed acute inflammation; the gall bladder was distended with semi-purulent greenish bile containing paratyphoid B organisms. I am indebted to Captain C. H. Corbett, R.A.M.C., whose case it was, for the above notes.

This was undoubtedly a case of ascending catarrhal jaundice, spreading upwards from the duodenum, common bile duct, hepatic ducts, to the smaller bile ducts, causing obstructive cholangitis from a paratyphoid B infection.

When we consider the great effect climatic conditions and environment have on disease, and the fact that a disease may change greatly in type after a period of years, as, for example, scarlet fever, it is not surprising that in countries like Mesopotamia and the Dardanelles the incidence rate of jaundice should be decidedly higher than in England, France, or America. Exactly the same kind of variation in jaundice incidence is well shown in influenza and pneumonia epidemics.

Dysentery.

Jaundice is not a symptom of either form of dysentery, and does not usually occur in the early stages of the disease. In severe cases with extensive ulceration jaundice does sometimes occur. This is probably due to secondary infection facilitated by the damaged bowel. It will be shown later that there is evidence of a causal connexion between dysentery and epidemic catarrhal jaundice, the former having some predisposing influence on the latter.

Typhus Fever.

The occurrence of jaundice in typhus fever is very uncommon. I saw it in two cases in Mesopotamia in which relapsing fever infection could be excluded. Jaundice is not mentioned by Osler or Castellani amongst the symptoms or complications of typhus. If jaundice occurs in a case of typhus it is generally an indication of an additional infection—malaria or relapsing fever—which blood examination will elucidate.

Pneumonia.

Jaundice not infrequently occurs in pneumonia; Osler points out that there is a curious irregularity in its occurrence in different outbreaks.[20] Blankenhorn found jaundice in 12 out of 40 cases examined in America, and all had urobilin in the urine. The incidence of jaundice in pneumonia appears to be much higher in America than in England. It is due probably to intrahepatic catarrh of the fine bile ducts and its presence does not necessarily increase the gravity of the prognosis.

Influenza.

Jaundice has been recognized for some time as an occasional symptom of influenza, especially of gastro-intestinal type. Osler states that in some epidemics it is common. In the cases seen in Mesopotamia, uncomplicated by malaria, jaundice was extremely rare. In the influenza epidemic at Bramshott, September and October, 1918, according to Lieut.-Colonel Cooper Cole, C.A.M.C.,[21] jaundice of considerable degree was usually of bad omen, and in fatal cases of this kind "fairly marked hepatic degeneration and occasionally perihepatitis" were found *post mortem*. Major-General Sir Wilmot Herringham, in opening the discussion on influenza[22] on April 10th last, at the Special Clinical and Scientific Meeting of the British Medical Association in London, referred to the recent epidemics which had attacked our army in France. He pointed out that in the epidemic of July, 1918, pulmonary symptoms first began to appear, and this was followed by a most severe outbreak in September, with a mortality of 5 per cent., which subsided in January, 1919. A third epidemic of lesser severity and incidence commenced in March, and in it jaundice became an associated symptom.

Syphilis.

The occurrence of jaundice in syphilis is so well known as to need only brief mention. In the acute secondary stage jaundice is not uncommon, and is probably due to intrahepatic catarrh of the finer bile ducts and increased destruction of red blood cells. In congenital and tertiary syphilis the hepatic fibrosis, whether unilobular, multilobular, or in gross patches forming gummata or scars, is commonly associated with jaundice.

Yellow Fever.

In this disease the most profound degenerative changes attended by fatty deposition are produced with great rapidity in the liver cells, and there is also a marked increase in the destruction of red blood cells. Definite jaundice commences as early as the second day, thus, according to Osler,[23] "the early manifestation of jaundice is undoubtedly the most characteristic feature of the facies of yellow fever."

As in phosphorus poisoning, delayed chloroform poisoning, and arsenobenzol poisoning, so with yellow fever, there is a short quiescent period of two or three days following the symptoms of the initial stage which last three or four days. In severe cases the quiescent stage is followed by increased depth of jaundice and the gravest symptoms—black vomit, haemorrhages from the gums or other mucous membranes, petechiae of the skin, albuminuria, delirium, subsultus tendinum, possibly convulsions, Cheyne-Stokes breathing, coma, and death.

These symptoms of the third stage of yellow fever are familiar, for they are those of "icterus gravis," which is the usual *finis omnium* of all the fatal forms of toxic jaundice.

Pyaemia and Septicaemia.

In conditions of septico-pyaemia jaundice not infrequently occurs, an important causal factor being the great haemolysis caused by the circulating toxins.

In septico-pyaemia affecting the portal distribution suppurative pylephlebitis and multiple liver abscesses are likely to occur and will be associated with definite jaundice, rigors, intermittent high pyrexia, enlarged very tender liver, and other signs of septic poisoning.

References.

[18] Weil's Disease (Spirochaetosis Icterohaemorrhagica) in the British Army in Flanders, *Lancet*, January 27th, 1917.

[19] Sir William Osler: *The Principles and Practice of Medicine*, 8th edition, p. 26.

[20] Blankenhorn: *Transactions* of the Association of American Physicians, 1917.

[21] C. E. Cooper Cole, Lieut.-Colonel C.A.M.C.: Preliminary Report on the Influenza Epidemic at Bramshott in September and October, 1918, BRITISH MEDICAL JOURNAL, November 23rd, 1918.

[22] Sir Wilmot Herringham: Special Clinical and Scientific Meeting of British Medical Association in London, on April 10th, 1919. Discussion on Influenza, BRITISH MEDICAL JOURNAL, April 19th, 1919.

[23] Osler: Ibid., p. 359.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

EFFICIENT TREATMENT OF THE CHRONIC RUNNING EAR.

THE following remarks are based upon an experience of three and a quarter years in the army in charge of an aural clinic in Egypt and at home. In Egypt I was allowed seventy beds and an out-patient department, and the experience has convinced me of the futility of our previous methods of treating otorrhoea; in the future some more generous provision of in-patient treatment must be made on a large scale if we are to increase the efficiency of the enormous numbers of partially deaf attending out-patient departments. Especially is this desirable in the case of children. The aural work in Egypt was admirably organized by Lieut.-Colonel Sir J. W. Barrett, R.A.M.C., the consulting aurist, and to its almost complete success I ascribe the rapid reduction in the number of beds required. Essentially it consisted of the following routine:

1. All cases of otorrhoea were in the first instance admitted to a hospital for treatment by an aural specialist with a trained nursing staff.
2. Routine treatment to the ear was given at least twice daily by a nurse specially trained for the work; in certain cases the patient remained in bed and cleaned his own ear every fifteen minutes or so. All granulations or any other obstruction to free drainage were previously removed by the aural specialist.
3. If there was doubt as to retention of pus in the mastoid the patient was kept in bed on a light diet; the temperature was taken every two hours, and blood examinations were made. Syringing was only allowed in special cases. In a few cases an *x*-ray photograph was taken. In nearly every case under treatment by mopping up discharge down to the drum and the insertion of antiseptic drops, the discharge diminished until it entirely disappeared or only a little mucus persisted.
4. When the patient left hospital he was given antiseptic drops for his own use and taught to clean his own ear down

to the tympanic cavity. His medical officer was requested to return him to the hospital in which he had been treated if any untoward symptoms should occur.

During the whole of my experience of this routine I do not recollect a single patient requiring a mastoid operation after the routine treatment had once been commenced and properly continued. Without exception, the only patients requiring interference with the mastoid region were instances of men who had not reported sick with their ears, and so had been carrying on with an untreated discharge. Usually these were very acute and extensive cases, and streptococcal in origin.

Rather against our previous opinions the conclusion was forced upon us that chronic otorrhoea is not the dangerous condition commonly supposed, if efficiently treated. Such treatment often necessitates a short period in bed in the first instance, with skilled attendance; in very few cases need the mastoid be drained. My experience is utterly against the contentions of those who have recently advocated almost routine drainage of the antrum, holding, as they do, that chronic otorrhoea is perpetuated by a chronic infection of the mastoid antrum. In my opinion, it is the treatment by rest in bed and the high standard of surgical cleanliness necessitated by sojourn in a hospital or nursing home bed that accounts for the success of these "modified" mastoid operations. On the other hand, conservation of the middle-ear structures is rightly replacing a haphazard scraping away of all the contents of the tympanum, and as such is very much to the good when there is actually a purulent affection of the mastoid region.

The complete and radical mastoid operation should not be performed as a routine—the indications are few; and the occurrence of mastoiditis in the course of chronic otorrhoea of the usual type of sepsis is most emphatically not such an indication.

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Late Aural Specialist E.E.F., and o/c Aural Centre, R.A.M.C., Blackpool.

Manchester.

SURGICAL TREATMENT OF A CASE OF ECLAMPSIA.

MRS. H., aged 42 years, was admitted to the Oldham Union Infirmary on February 17th, 1919, for pregnancy complicated by eclampsia. She had had one convulsion before admission. On admission she was very restless and incoherent, and quite unable to give any account of herself. The urine contained a very large amount of albumin. The treatment consisted of enemata, rectal salines, and hot packs, and no further convulsions occurred until after a normal delivery, on February 19th, of a full term female child.

Soon after confinement the patient became very restless, and began to have convulsions, which became gradually more frequent until she was having them every few minutes. Morphine, pilocarpine, and other methods of eliminating the toxins were tried, but, as the patient's condition became steadily worse, it was decided to operate. On the evening of February 22nd, Dr. Radcliffe, the visiting surgeon, performed decapsulization and nephrotomy of both kidneys, which were found to be in a condition of parenchymatous degeneration, being large and white. From the time of operation the patient's condition, mental and physical, steadily improved. No more convulsions occurred, and she is now ready for discharge, the urine being free from albumin, and her mental condition normal.

I wish to thank Dr. Robert P. Parker, the superintendent medical officer, for permission to publish the notes of this case.

MARY G. CARDWELL, M.B., Ch.B.,
Resident Assistant Medical Officer.

Union Infirmary, Oldham.

THE foundation stone of the great Victoria Hospital in Rome was laid on April 28th in the presence of the King and Queen of Italy and a number of Ministers, Senators, Deputies, the Syndic of Rome, and other officials. The stone bears the following inscription: "Victor Emmanuel III Rex Italiae lapidem auspicalem nosocomii a victoria excitandi sollemni ritu statuit iiii Kal. Maias Anno MCMXIX." The hospital, which is situated at Monteverde, will cover an area of about 200,000 square metres. It will at first contain a thousand beds; later this number will be increased to fifteen hundred.

Reviews.

SURGERY OF THE ENTERIC GROUP OF DISEASES.

WITH that felicity for epigrammatic phrase which is so peculiarly his own, Sir William Osler, speaking at the recent annual dinner of the British Medical Association, referred to typhoid fever as the "great killer," and expressed his opinion that one of the greatest medical wonders of the war was that this enemy had been reduced to impotence. In the British armies in France the enteric fevers have been almost a negligible factor in the sick incidence from the numerical point of view, and the success which has attended the work of preventive medicine constitutes a triumph. In the French armies typhoid fever was a very serious menace until wholesale inoculation was introduced. Further, whilst epidemics of the disease spread among the civilian population in the areas occupied by the British troops, our army, thanks to the protection afforded by inoculation, remained practically free.

Of the cases which occurred amongst our own troops a very considerable number were treated in the Boulogne base, and it was a study of these cases which furnished the material on which Colonel WEBB-JOHNSON has based his book on the *Surgical Aspects of Typhoid and Paratyphoid Fevers*.[1] A consecutive series of 2,500 cases, the nature of which was established either by bacteriological examination or by agglutination tests, was studied, and the surgical complications occurring among them formed the author's starting-point. Happily he was not content to place on record merely his own observations, but has drawn also upon the available surgical literature, with the result that he has given in compact form a very comprehensive account of the protean manifestations of the enteric infections.

In a brief historical sketch he states that enteric was first noted as a military scourge in the civil war of 1603. John Hunter, acting as a military surgeon in the Seven Years' War, met with cases of fever with intestinal ulceration; many of his specimens are still preserved, and some of them are illustrated here. To W. W. Keen of Philadelphia, however, the credit is ascribed for first writing on the surgical complications of typhoid, in his book published in 1898.

The fundamental bacteriological knowledge on which the modern conception of the enteric fevers is based, and the subdivision of the "Group" into typhoid, paratyphoid A, and paratyphoid B, is succinctly stated. These three infections, clinically and pathologically similar, differ in severity, paratyphoid A being on the whole less severe than paratyphoid B, and the latter than typhoid. The distinction can only be definitely determined by the bacteriologist, and the war has proved the great value of Dreyer's method of agglutination. Speaking generally, cases of typhoid seen in France were less severe than those met with in civil practice, for the disease was in the majority of cases modified by inoculation. But inoculation, whilst modifying the severity, does not alter the broad characteristics of the disease, a point which was not sufficiently considered by those who, in the early days, regarded trench fever as typhoid modified by inoculation, whereas in certain salient points it differs.

The fact that typhoid is a bacillaemia is duly emphasized, and it is pointed out that this fact explains the widespread complications, since every organ in the body has been exposed to a bacillus-infected blood stream. The specific bacillus has been recovered from many infected regions, the recovery being more likely when the complication arises late in the course of the disease.

An interesting table detailing, under twenty-eight headings, the surgical complications, shows the incidence of each in the three members of the "group" and their comparative frequency in inoculated and uninoculated men. The figures will well repay careful study by those who desire statistical proof of the value of inoculation.

Colonel Webb-Johnson then deals with the complications as they arise regionally. He advises the administration

[1] *Surgical Aspects of Typhoid and Paratyphoid Fevers.* By A. E. Webb-Johnson, D.S.O., M.B., Ch.B.Vict., F.R.C.S. London: Henry Frowde, and Hodder and Stoughton. 1919. (Demy 8vo, pp. 190; 26 figures. 10s. 6d. net).

of urotropine when infection of the biliary tract arises. In discussing the treatment of venous thrombosis mention is made of the method of intravenous administration of sodium citrate introduced by Major H. F. Marris. Though the number of cases was too small to warrant definite conclusions, the results were so far encouraging as to justify further trial of this remedy; post-enteric thrombosis is a terrible handicap to a young man, and often cripples him for life. Larger doses and a higher percentage than Major Marris employed (10 oz. of a 0.5 per cent. solution) may give more definite results. The chapter on bone complications deserves special study; emphasis is laid on the important pathological fact that the bone marrow is very frequently infected by the *B. typhosus*. When this condition is present and widespread the value of localized operations must be small, and total eradication of the infected tissue may be impossible. Colonel Webb-Johnson considers that vaccines should therefore play a large part in the treatment of such cases.

Lastly, we may notice the discussion on the "carrier" problem, which suggests many points for careful thought. Apart from the well recognized carriers who are passing bacilli from the urinary or the biliary tracts, the spleen is suggested as being very frequently the focus from which a constant stream of organisms is discharged, to reach the exterior by way of the bile; that the bone marrow may play a similar part has already been mentioned. Unhappily in the former case vaccines have not been found of much value, and the problem of the right treatment of the splenic "carrier" still remains unsolved.

In his foreword Lieut.-General Sir John Goodwin, Director-General Army Medical Service, states, "in placing the results of his study and experience before the profession Colonel Webb-Johnson has conferred a benefit on surgeons which they will sincerely appreciate," an opinion which we gladly endorse. A word of praise must also be given to the publishers, for the printing, illustrations, and paper of the book are all excellent.

TREATMENT OF NERVE INJURIES.

THE war has afforded unique facilities for the study of nerve injuries, and in the second edition of *Nerve Injuries and their Treatment*[2] Sir JAMES PURVES STEWART and Mr. ARTHUR EVANS may be complimented on making good use of the occasion. The new edition has been largely rewritten. After a preliminary account of nerve physiology, chapters are devoted to methods of examination, varieties of injuries, simulated injuries, prognosis, treatment, and operations on nerves. The body of the book contains a discussion of lesions of individual nerves based on 520 cases. The style is clear, exact, and concise, and the illustrations are good. Prognosis is discussed on general lines and is not traced out in individual cases; the reader will be disposed to conclude that the prognosis of nerve injuries after operation is not so good as we were led to suppose before the war.

Almost every conceivable nerve injury is described and each description is preceded by a good anatomical account of the plexuses and individual nerves. On nerve regeneration the authors adhere to the neurilemma theory rather than the downgrowth of the axis cylinders. It is disappointing that, in a book which is to be regarded as a standard work on nerve injuries, a fact so basal as the manner of regrowth of a nerve is not definitely settled. We hope that before the work reaches its third edition one school will have confounded the other by definite facts. The book is full of good work. We can recommend it as a sound, practical, scientific work.

CLINICAL DIAGNOSIS.

To write a modern book on clinical diagnosis is no light task, owing to the constant introduction of new methods, and the increasing necessity laid upon the physician of keeping abreast of the allied sciences of chemistry, physics, and even higher mathematics, not to mention the steady stream of new knowledge in physiology and pathology. Dr. MARTINET has valiantly attacked the problem, and the production of his *Diagnostique Clinique*[3] during the war is an achievement of which he may be proud.

After a preliminary note on errors in diagnosis, due in the author's view to three main causes—ignorance, inefficient examination of the patient, and errors of judgement—Dr. Martinet arranges his material under two main headings. In the first part of the volume methods of diagnosis are described regionally, and a systematic account is given of the various tests and clinical methods whose value has been proved. For instance, in discussing blood pressure, the three methods of using the sphygmomanometer—by palpation of the artery, by auscultation, or by reading the maximum oscillations—are discussed and illustrated. The author, whilst preferring the oscillatory method, yet does justice to the other two. Place has been found even for such specialized examinations as those with the electrocardiograph. The author is not content to mention some particular method of examination, but gives an illustrated description of how to acquire it. In laryngology, to quote a specific instance, various simple exercises are described by means of which the student can master the elements of this by no means easy art before he proceeds to examine a patient. The illustrations are numerous and in many cases very ingenious, in that they present to the reader at a glance a very complete summary. The chapter on valvular lesions contains many, each dealing with a particular lesion, and representing diagrammatically the various phases in the cycle, with a cardiogram and a graph of the bruits heard.

The chapter on the principles which guide the examination of a patient is helpful, in that it points out the importance of speed without neglecting anything essential, and suggests many useful ways in which this may be attained. At this point the author permits himself a digression; he looks forward to a rapidly approaching future when the growing complexity of medical technique will demand for the private patient, as for those in hospital, a combination of effort which may best be described as "team work." Neither public nor professional opinion has yet reached in France, or in England, the stage which has been attained in America; but he would be a bold man who would regard Dr. Martinet's forecast as impossible of fulfilment.

The second part of the book is devoted to a discussion of symptoms. They are dealt with alphabetically, to permit of more ready reference. A sampling of various sections indicates that the underlying causes of the symptoms are fully dealt with, a descriptive medical dictionary being the result.

To those who are in the habit of reading French the book may be commended as a very useful work.

NOTES ON BOOKS.

THE war, which has made us intimate with many strange things and conditions, has emphasized the importance of animal parasites in the causation and spread of disease. For this reason Lieutenant LLOYD'S book on *Lice and their Menace to Man*[4] will be read with interest. As he says, it is strange that so common an insect should still be the subject of many erroneous statements; for example, until lately it was generally held that body lice deposited their ova exclusively on garments and bedding. We now know that both pubic and axillary hairs may swarm with their nits, an observation of the highest importance in its relation to disinfestation. The book contains a very complete account of the habits and life-history of the insects, and the various methods of dealing with the pest are fully described. Chapters on relapsing fever, typhus fever, and trench fever are included, the last being written by Major W. BYAM, R.A.M.C. That louse-borne disease occasioned an enormous amount of wastage in the armies is a matter of common knowledge, and although typhus never spread to the Western front, its menace was constantly felt. For this reason any contribution to the question is of especial interest to the sanitarian. But the general reader also, for whom this little volume has been specially designed, will find in it much to engage his attention. The information is compactly arranged, and in a comparatively small space there is contained a good account of this very important subject.

[2] *Nerve Injuries and their Treatment.* By Sir James Purves Stewart, K.C.M.G., C.B., M.D.Edin., F.R.C.P., and Arthur Evans, M.S., M.D. Lond., F.R.C.S. Second edition, revised and enlarged. London: H. Frowde, and Hodder and Stoughton. 1919. (Demy 8vo, pp. xii + 249; 137 figures. 12s. 6d. net.)

[3] *Diagnostique Clinique.* By Dr. A. Martinet. Paris: Masson et Cie. 1919. (Roy. 8vo, pp. 912; 782 figures. 33 francs.)

[4] *Lice and their Menace to Man.* Lieutenant Ll. Lloyd, R.A.M.C. (T.). With a chapter on Trench Fever by Major W. Byam, R.A.M.C. London: H. Frowde, and Hodder and Stoughton. 1919. (Demy 8vo, pp. 148; 13 figures, 4 charts. 7s. 6d.)

PORTRAIT OF SIR CLIFFORD ALLBUTT.

As announced a few weeks ago, Sir Clifford Allbutt has accepted an invitation to allow the profession to present to him a portrait of himself painted by an eminent artist. The Council of the British Medical Association has taken the initiative in the matter because Sir Clifford Allbutt has been President of the Association during the years of the war, and will preside over its Annual Meeting in Cambridge next year. The esteem due to Sir Clifford Allbutt's attainments and the warm affection inspired by his character are such that very many, both within and without the Association, will desire to share in this tribute to one whose career has reflected so much honour on medicine in England. This desire will not be limited to his many pupils, first in Leeds and afterwards in Cambridge, nor to the members of the Association, and subscriptions are invited from all members of the profession. The amount is limited to one guinea, and the Treasurer of the British Medical Association, 429, Strand, London, W.C.2, is now prepared to receive subscriptions of one guinea or less.

The following is the first list of subscribers:

Subscriptions of £1 1s.

Sir Norman Moore, Bt., President of the Royal College of Physicians, London
Sir G. H. Makins, G.C.M.G., C.B., President of the Royal College of Surgeons, England
The Right. Hon. C. Addison, M.P., M.D., President of the Local Government Board
Surgeon Vice-Admiral Sir W. H. Norman, K.C.B., Director-General, R.N.
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Major-General M. H. G. Fell, C.M.G., Director of Medical Services, Air Ministry
Major-General Sir R. Havelock Charles, G.C.V.O., Medical Adviser to the Secretary of State for India
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THE LONDON RADIUM INSTITUTE.

ANNUAL REPORT.

THE report of the London Radium Institute for 1918 differs in some respects from those previously issued. The usual series of malignant growths are included, but the account to be given of them does not differ from those which have appeared in the previous yearly reports; the methods of treatment and the varying results are much the same. This time prominence is given to the treatment of non-malignant conditions, war-time injuries, and diseases of an unusual type or infrequent occurrence, which have proved to be amenable to radium treatment. In all, 743 cases were dealt with during the year; of this number, 61 were found on examination to be unsuitable for treatment. Of the remainder, 103 are reported as apparently cured, 27 as cured, and 288 as improved; 6,623 treatments were administered, and of these 4,163 were given free of all charges to necessitous patients—an important point, as showing the large amount of purely charitable work undertaken. It should also be noted that out of 789 emanation applicators prepared 417 were distributed gratuitously to hospitals and to medical practitioners. Now that the war has come to an end it has been possible to organize a Pathological Research Department, and Dr. J. C. Mottram has been appointed Director of the Research Laboratory. In addition, Mr. R. J. Clarke, M.Sc., has been added to the staff as Assistant Physicist. The report is issued, with the authority of the committee, by Mr. A. E. Hayward Pinch, F.R.C.S., the medical superintendent, and any medical practitioner can obtain a copy by application to the Secretary of the Radium Institute, 16, Riding House Street, Portland Place, London, W.1.

Lymphadenoma and Leukaemia.

Lymphadenoma generally exhibits an exceedingly favourable response to radium therapy, especially when the superficial glands only are affected and there is no splenic enlargement. The diminution of the size of the glands is rapid after prolonged exposure to a large amount, 300 to 500 mg., heavily screened. They may disappear in about four weeks after the exposure. A case is detailed of a soldier with enlargement of the cervical glands on both sides, together with a shadow to *x* rays in the upper mediastinum. The affected glands and the mediastinal shadow entirely disappeared, he lost his anaemia, and recovered so completely as to return to full duty; the treatment in this case consisted of the application of 400 mg. of radium screened with 2 mm. of lead on four occasions between April and November.

In a case of lymphatic leukaemia, in addition to the disappearance of enlarged glands, an enlarged spleen receded behind the ribs; whilst in a case of splenic leukaemia a spleen reaching well below the umbilicus, a month after being exposed to a similar dose of radium for thirty hours, was very little larger than normal. Two months later this spleen was successfully removed by operation, and the patient made a complete recovery.

Fibroid Disease of the Uterus.

The menorrhagia and metrorrhagia accompanying fibroid disease of the uterus were almost invariably checked, and in some cases completely abolished by radium treatment. Some diminution in the size of the existing tumour may also be produced. Suitable cases are those over 40 years of age, and the fibroid should be of moderate size and not the site of any inflammatory or degenerative changes.

Chronic Metritis: Uterine Fibrosis.

This exceedingly obstinate condition, which frequently leads to the removal of the uterus, is often curable by radium, menstruation becoming normal. Prolonged screened exposures of about thirty hours' duration are necessary, both intrauterine and extrauterine, and these treatments may have to be repeated four or more times. Several striking cases are quoted in detail—cases in which the loss had been great enough to produce anaemia.

War Injuries.

These are of such great importance at the present time that we quote the conclusions arrived at in full:

During the past five years many patients suffering from a great variety of war-time injuries have been sent to the Radium Institute for treatment. Some cases were of such a character as to be manifestly unsuitable for radium therapy—for example, hernia cerebri, bony ankylosis of joints, etc.; but others, such as keloids, vicious cicatrices, painful scars, arthritis of infective origin, fibrous adhesions, and periosteal sarcomata following injuries, have been taken for treatment. The exigencies of the Services have, however, prevented many of these cases from being followed to a successful termination, the patients either being transferred to some other hospital, or invalided out of the Services, and returned to their homes at a distant part of the country before treatment was completed. These circumstances often rendered the results of the treatment of keloids and vicious cicatrices disappointing, as to secure the best effects prolonged exposures with silver-screened apparatus need to be given at six-weekly or two-monthly intervals, over a period of one year or even longer. In those instances where the patients were able to comply with these requirements the results were, as a rule, satisfactory.

A few cases of painful scars, due probably to the involvement of terminal nerve filaments in the scar tissue, were treated, but though many different forms of exposure and screening were tried, but very little relief was obtained.

Considerable caution had to be exercised when dealing with scars occupying an extensive area, or in close relationship with bony tissues, as in such lesions it was found that by reason of the greatly diminished blood supply, and impairment of the functions of the trophic nerves, vesication or superficial ulceration was very easily induced. Quarter strength applicators were, therefore, always employed, and the length of the exposures curtailed. A few cases presented themselves for the treatment of scars, in the neighbourhood of which fragments of shrapnel or metal remained embedded. The secondary radiation reflected from the surface of such bodies greatly intensified the reaction, and so necessitated a proportionate diminution of the strength and duration of the exposures.

The effect of radium irradiation upon chronically inflamed tissues, which have sometime previously been the site of acute septic changes, occasionally stimulated some dormant focus of bacterial infection, and in the treatment of such patients the possibility of this occurrence has always to be borne in mind.

When dealing with the limitations of movements of joints due to the presence of fibrous adhesions, the date at which the treatment commenced was found to be a factor of the greatest importance, as if the patient attended before the fibrous tissues were fully organized, and had commenced to contract, the results were obtained much more rapidly and proved more definite and permanent.

Tuberculosis.

In the early stages of tuberculous adenitis radium will often cause a diminution in the size of the glands, and either postpone or avert the need for surgical measures.

In lupus vulgaris cases of long standing which have proved resistant to Finsen light, *x* rays, CO_2, scarification, caustics, etc., are sometimes quickly and effectively cured by radium. Three cases of this disease affecting the face are quoted in detail and the manner of treatment stated. All were cured.

Leucoplakia.

This condition, whether affecting the mouth or vulva, is almost always much benefited by radium, and the pruritus so commonly associated with it is greatly relieved. There is, however, a strong tendency to recurrence.

Naevi.

The radium treatment of cavernous naevi may be regarded as most satisfactory, and though the procedure is somewhat lengthy, screened exposures having to be given every six weeks for from six to twelve months or even more, the result is always better than could be obtained by other means. On the other hand, capillary naevi are not so favourably influenced, and although the removal of a small capillary naevus may quickly be brought about by the employment of a destructive reaction of moderate degree, this method is not practicable in large and widely distributed port wine stains by reason of the extensive scarring which would result. Much care and experience are needed for the treatment of these cases. Personal idiosyncrasy is an important factor. There is a great tendency to produce telangiectases in the treated areas; they should be destroyed immediately with the electric cautery.

Warts, Papillomata, Etc.

Warts, especially when occurring in certain situations, such as the eyelids, lips, penis, labia, etc., are easily removed by radium. If the dosage is correctly estimated they disappear by an almost painless exfoliation in about a month, and there is little or no tendency to recurrence. Unscreened exposures of one to one and a half hours should be given with full strength applicators. Senile keratomata may be treated in similar fashion with equally good results. Moles, especially if pigmented, are not suitable lesions for radium therapy, and should be severely let alone.

A number of cases of warts, an example of papilloma of the foot, a granuloma of the face, and two cases of keratoma are described.

Skin Diseases.

A case of chronic eczema limited to small, but intensely irritable, areas in the axillae, was completely cured by two exposures, with half strength apparatus screened with $\frac{1}{100}$ mm. of aluminium, the exposures being for fifteen minutes only. The same result with practically the same treatment, but without screening, was obtained in a case of seborrhoeic eczema.

In lichen annularis with numerous patches on the extensor aspects of both legs and ankles, relief from itching was obtained within a few days of the first application, and entire disappearance of the patches after four treatments. A patch of lichenification which had been present on the buttock for twenty years, and in which the itching was very severe, received treatment from 80 mg. without a screen for fifteen minutes on three occasions. Definite improvement followed each application, and in two months the lesion had gone.

Two cases of Fordyce's disease (miliary lesion of the mucous membrane of the lips accompanied by itching and burning) are reported in detail. Both had resisted other methods of treatment. All trace of the disease was removed by short exposures to radium screened with $\frac{1}{100}$ mm. aluminium only. The first case did not respond when the radium was screened with 1 mm. of silver. Other skin conditions successfully treated were xanthoma palpebrarum, xeroderma pigmentosum, mycosis fungoides, and melanoma.

Chemico-Physical Laboratory.

The report concludes with an account of the work of the Chemico-Physical Laboratory by Mr. W. L. S. Alton, the director. The most interesting part of it is that describing the method of mounting applicators with dental vulcanite as the fixative. This method has been found to be a very great advance on the older varnish, and the applicators appear to be permanent. Also they can be made in four days, as compared with four weeks for the varnish; and the radium sulphate can be extracted with ease should occasion arise.

AT a general meeting of the Medical Society of London on May 12th a resolution was proposed to delete the by-law excluding women from attending the society either as Fellows or visitors. An amendment to provide that a woman might be introduced as a visitor by a Fellow to not more than three meetings in any one session was carried. At a second general meeting, to be held on Monday, June 2nd, this amendment will come up as a substantive resolution.

THE RELATION OF VOLUNTARY HOSPITALS TO THE STATE.

AT a conference held by the British Hospitals Association at the London Hospital on May 16th, under the presidency of Lord Knutsford, a discussion on the relation of the voluntary hospitals to the State was opened by Sir E. NAPIER BURNETT, M.D., who urged that some alteration of policy was needed in order to harmonize the hospital system with the circumstances of to-day. During the past four years the income received for the treatment of military patients occupying beds in the hospitals which otherwise would have been occupied by non-paying patients had tided many hospitals over an anxious period, but a financial crisis was bound to come with the repeated excess of hospital expenditure over the income derived from the philanthropic public. Two methods were open for consideration—curtailment of expenditure and increase of income. As to the first, he did not think that hospital administration was as economical as it might be made. Convalescing patients might, ten or fourteen days after operative treatment, be transferred to convalescent homes in the country, where recovery would be accelerated, and where the annual cost of each occupied bed would be at least one-third less than in the general hospital. No hospital worthy of the name would seek to curtail expenditure by offering a limited service, or in any way failing to make the fullest possible use of its accommodation. He predicted that in the near future the country would demand that hospital facilities should be made available for a largely increased number of people, and the National Insurance Act might soon be so amended as to provide institutional treatment for the thirteen millions of insured persons. Owing to high taxation, voluntary subscriptions were likely to diminish, and already voluntary civil hospitals were in receipt of subsidies from the State for the treatment of tuberculosis and venereal disease, for the accommodation of pensioners and military patients, and for child welfare work. But it might be asked why the State made a selection of a few diseases for the treatment of which it paid. Disease was the enemy of the State, and it was only from lack of imagination that the State, while providing fever hospitals, lunatic asylums, and venereal clinics, left other diseases—no less deadly, though their peril might be less evident—unprovided for. Given State remuneration for certain work, there was no objection to a reasonable degree of control in the form of State inspection.

The brief discussion that followed Sir Napier Burnett's address was mostly in the form of question and answer, bearing particularly on his suggestion for removing patients during convalescence. Lord KNUTSFORD said that the London Hospital had not the slightest objection to taking money from the State, nor to reasonable inspection. What the voluntary hospitals were frightened of was not State inspection, but State control. Sir ARTHUR STANLEY said that he had been nominally responsible during the war for nearly 1,600 hospitals, all of which came within the purview of Sir Napier Burnett, and he could only hope that any general scheme of State inspection would be as thorough and considerate as his. At the same time, he would deplore the cessation of charitable gifts, if only because of their moral value to the donor. Mr. WADE DEACON (Liverpool Royal Infirmary) said that he had no fear of control in any unpleasant sense. The day for the voluntary system pure and simple was over; it could not meet present requirements.

A CONGRESS of asylum attendants was recently held at Bologna. Resolutions were passed in favour of forty-eight hours of duty weekly with a continuous rest of twenty-four hours. It was further decided to ask for an increase of pay, and to establish a periodical to be the organ of the attendants.

THE first Spanish Congress of Medicine and Hygiene was held in Madrid on April 20th to 25th under the presidency of Senator Gómez Ocaña, professor of physiology. It was formally opened by King Alfonzo, who, in announcing the establishment of a special faculty for South Americans, said it would cost the price of a first-class battleship, and be as valuable to the country. The work of the congress was distributed among seventeen sections.

British Medical Journal.

SATURDAY, MAY 24TH, 1919.

THE HEALTH OF THE WORKING WOMAN.

Observations made by the Health of Munition Workers Committee tended to show that with sufficient food, and reasonable conditions of ventilation at work and of comfort at home, women could stand harder work and longer hours of it than had been generally supposed. The result might perhaps have been foreseen if we had given more thought to the part women have taken in many countries and ages in the greatest of industries. But in this country, wanting the peasant proprietor, we had during several generations grown out of the habit of thinking of women doing a day's work in the field to the advantage of their own health and of the prosperity of their families and their country—even the milkmaid seems almost to have disappeared from among us. Nevertheless we may agree with Dr. Janet Campbell, who, in the eminently wise and sane memorandum [1] on the health of women in industry appended to the report of the War Cabinet Committee on that subject, states as her first conclusion that physiological considerations make it unlikely that women can become equal to men in physical strength, and that therefore uncontrolled competition between men and women in matters requiring considerable muscular energy is undesirable.

Dr. Campbell's inquiry necessarily covers a very wide field, and the report itself is a model of condensation, so that we can now only touch upon a few points. Dealing with the relation of industrial occupation to the decline of the birth-rate Dr. Campbell says that "on the whole it seems probable that the increasing employment of women tends to accelerate the fall in the birth-rate, especially when a high proportion of married women is employed." A discussion of preventable infantile mortality leads to the conclusion that the most important general influences tending to maintain this at a high level are poverty, bad housing and defective sanitation, lack of education of the mother, and the nature of the occupation of the parents. Frequently several of these causes occur together in the same district and in the same family; poverty and bad housing, for instance, are often inseparable, and ill-paid work and a low standard of domestic hygiene are usually, though not always, associated. The effect of occupation cannot be disputed: statistics are quoted from the report of the Registrar-General for 1911 showing, for instance, that while the mortality among infants of unskilled workers was 152.5, among those of agricultural labourers it was 96.9, and among the upper and middle class 76.4. The suggestion of these figures is certainly that overcrowding is a very important factor. This seems to be confirmed by the fact that the industry associated with the highest infantile mortality rate is mining, in which there is little employment of married women, but the housing and sanitation, it is said, "are notably inferior, and the standard of general hygiene and domestic comfort is low." The infantile mortality rate is very high amongst textile workers—148.1—and it is very high also in the pottery district; in both industries many married women are employed for long hours away from their homes. This, it may fairly be assumed, produces its injurious effect by depriving the infant of its natural food and of the careful and constant attention, the "mothering," so necessary to its successful nurture.

The only provision of the law which affects the industrial employment of pregnant women is contained in the Factory and Workshops Act of 1901, which forbids an employer to allow a woman to be employed within four weeks after giving birth to a child. There is no administrative machinery for carrying this out, and it is operative mainly because women seldom in fact desire to return to work within that period. It will probably be agreed that the most dangerous period of pregnancy from the point of view of the child is the first three months, but here no control can be exercised as the condition can only be ascertained by the voluntary consent of the woman herself, and it is held that notification of pregnancy at any stage is for many reasons highly undesirable. Further, it is said that, bearing in mind the relatively small number of women employed in the later stages of pregnancy, any general action for the protection and welfare of the expectant mother can best be carried out through action by the local authority to provide antenatal and maternity facilities for women willing to take advantage of them.

We would particularly commend the section of Dr. Campbell's report dealing with grants in aid of maternal and infant welfare. Various people have proposed that grants in aid should be made to the mother before and after her confinement, and that a mother in receipt of such grants should in the interests of her child be prohibited from seeking employment away from her home. An estimate made by the Government actuary shows that such a scheme would involve a very large annual outlay—something between twenty-five and thirty millions if the grant were made for six months, and from six to seven millions if for six weeks. But apart from this consideration, it is pointed out that the difficulties of administration would be almost insuperable. At the present time the state aid for nursing and expectant mothers consists of the maternity benefit under the Insurance Act, and the powers given to sanitary authorities under the Maternity and Child Welfare Act, 1918, to provide assistance for mothers who require it, by affording treatment by medical practitioners or midwives, advice or help through health visitors, maternity centres or infant welfare centres, and, when necessary, food or milk for mother or child. The general conclusion under this head is that it would be undesirable to set up a new system of maternity grants overlapping the existing maternity benefit and administered by another department of the State. It is suggested that maternity benefit should be transferred to the sanitary authority, placed on a non-contributory basis, made available for all women under the income tax limit and brought up to the 60s. now paid to the employed wives of insured men. This would need fundamental modifications of the Insurance Acts, but Dr. Campbell believes that the administration of the grants would be more satisfactory, as well as more agreeable to the women concerned, and that various existing anomalies would be removed.

It is advised that further investigations by scientific methods should be undertaken into the physical effects of employment upon girls and women; that there should be a substantial reform and extension in the scope of the Factory and Workshops Acts; that a

[1] *Women in Industry.* Cmd. 135. H.M. Stationery Office. Price 1s. 6d. net.

local factory medical service should be established, founded, perhaps, through an extension of the present system of certifying factory surgeons; and that the factory medical department of the Home Office should be strengthened by the appointment of an adequate staff of women medical inspectors of factories.

Dr. Campbell's report is a valuable contribution to an important subject, and we would be the last to indulge in any captious criticism of it, but there are one or two phrases to which we think attention should be called. The first recommendation made is that, in "order to secure and maintain physical health and efficiency, no normal adult woman should be employed for less than a reasonable subsistence wage." The intention of this is sound, but the phraseology is too absolute. Another phrase to which we might take exception is to the effect that "the main object of appropriate health conditions is to secure a better and more capable human being"; this is true, but it is only a part of the truth, since happiness must be reckoned one of the main objects of the arrangement of our existence.

THE SUBURBAN GREEN.

THE Housing Bill had an easy passage through the Standing Committee, and it is thought probable that the report stage and the third reading in the House of Commons will be completed in time to send the bill to the House of Lords before the Whitsuntide recess. As the bill was only introduced on April 7th this is good going, and already there are reasons for expecting the bill to be very much more successful in operation than any of its predecessors. The procedure under the Housing of the Working Classes Acts, now twenty-eight years old, is most cumbersome and relatively few schemes were put forward; but during 1918 the persistent criticisms of the medical profession and medical journals, reinforced by experience gained at the munition works, stimulated the interest of local authorities, although down to the middle of January schemes had been submitted by only 108 authorities for the acquisition of sites, and by 52 authorities respecting the building of houses. By April 7th 693 applications with regard to schemes had been received, estimated to be capable of providing 100,000 houses. It is said that the number of houses which it is hoped may be built this year approaches 300,000.

The new Housing Bill requires every local authority to make a survey of its districts. The Local Government Board has divided England and Wales into eleven regions, with a district housing commissioner having head quarters in some convenient town. The commissioners are appointed to assist the local authorities with regard to housing schemes at all stages, to advise in the choice of the laying out of sites, and the types of houses to be erected, and at a later stage on specifications, contracts, materials, and the supply of standard articles. From this decentralization of control it is reasonably hoped that many advantages will flow. Due consideration is more likely to be given to the customs of a district and the building materials available, and authorities may be saved from mistakes which would prevent the immediate approval of their schemes by the Board. For the assistance of authorities the Board has also issued a *Manual on the Preparation of State-aided Housing Schemes*, which deals in a general way with most of the principles which should be observed, and the difficulties likely to be encountered.

In many instances the local authorities are ready to proceed on information now in their possession, as is shown by the large number of applications received; but the *Manual* very properly insists that each should make a broad survey of the present needs and probable future development of a district or town. In most towns the healthy conditions required will be most readily obtained by taking up an area on the outskirts of a town—creating, in fact, a new set of suburbs or villages, with open spaces for recreation grounds, gardens, or allotments. This, however, must very often involve the building of new schools and great improvements in transport facilities. The position of things in London to-day is proof enough that in planning a new suburb an authority must make sure of transport to and from the industrial areas, unless factories and workshops are to be established on the outskirts alongside the new suburb, which may become practicable when electric enterprise has gone a little further. London is no doubt a special case, since it is mainly a retailing, forwarding, and administering centre, employing a very large number of clerks and shop assistants whose remuneration may be less than that of the skilled manual worker, though their standard of living is higher and their desire for the comparative quiet and freedom of the suburbs greater. The London M.P.'s went to the President of the Local Government Board on Monday to complain of the present position of transport in London and to point out that the success of any housing scheme was dependent on cheap and easy transport. Dr. Addison, who as himself a London M.P. was sympathetic, admitted that the position had not been exaggerated, and improved the occasion to explain the provisions in the Housing Bill which would give power to deal with houses in the crowded centres of the metropolis. London's present misfortunes may be of benefit both to it and other centres if they compel local authorities in other districts to give attention to this matter of transport. The evidence obtained by the Health of Munition Workers Committee proved that the journey home in a crowded railway or tram car seriously adds to the fatigue and eventually undermines the health of industrial workers.

Granted that this difficulty has been foreseen and provided for, and that a site deemed suitable has been acquired, a scheme must go through two stages which call for somewhat different qualities in the adviser. The first stage includes the selection of a site and the plan for laying it out; this calls not only for local knowledge with regard to the nature of the soil, the water supply, and means of access, but also for imagination to look into the future and form an idea of how the place will look and work when the houses are built. The plan must afford some open space, and must be so arranged that the houses have at least small gardens, and are near allotments if these can be provided. The second stage is concerned with the actual designing of the houses, and here there is room for the exercise of the ingenuity and taste of the architect.

It is recommended that not more than twelve houses should be erected to the acre in urban areas, which is at the rate of about 400 square yards to the house, and that the width of the roads on the site, including the roadway between house and house, should be at least 70 ft., since with less than this sunlight is very rapidly obscured. Sketches are given of a number of types of roads, and it is pleasant to see that the planners suggest the planting of trees along the roadway, where possible on each side, but it will be necessary to set back the houses rather further if, in the course of twenty years, light is not to be blocked by foliage.

Speaking generally, the schemes suggested in the *Manual* for laying out sites go back more or less to the idea of the village green, but of course on a very small scale. The very difficult problem of dealing with steeply sloping sites is attacked, and one laying out plan is given; but local conditions vary so much that every proposal will call for very careful consideration, backed by local knowledge. How deplorable the result may be if a site is not laid out on a coherent plan, with a view to the future, any one who has traversed the mining valleys of South Wales will not need to be told. No doubt in many of these places the problem is extremely difficult. Rows of houses, without the smallest attempt to give them any grace or beauty, have been dropped down wherever it is possible to make a road; the motives have been twofold—in the first place, economy, and in the second the desire to get the houses as near the working places as possible. When, as in a narrow valley, the site is cramped, the result may be horribly depressing. Travelling along the main road above Pontypridd is like looking down into an untidy coal cellar.

It is very interesting to be told, though we do not vouch for the calculations, that in most other sites likely to be selected the small saving in cost which can result from placing a large number of houses on the land does not compensate for the attendant disadvantages. The saving in the actual cost of each developed house by increasing the number of houses to the acre, diminishes as the number increases. The area of the plot available for each house is reduced so much more rapidly than is the cost of the plot that the cost per square yard of available ground rises steadily with the increased number of houses to the acre, because, among other reasons, the increasing proportion of each acre of land must be occupied by roads providing frontage for the additional houses. Putting it another way, it comes to this, that the prime cost of the land forms so small a part of the total expenditure on laying out a site and building the houses, making roads, and laying on water and gas or electricity, that the profit to the public authority or private speculator, by overcrowding on site, rapidly diminishes. It is satisfactory to have this financial support for the hygienic demand that the crowding of houses on a site should not be allowed to continue. There is, of course, a limit in the other direction; and, as has already been noted, the suggestion is that twelve houses to the acre is a good standard. The Board does not seem to have quite made up its mind with regard to the schemes for rural areas. We believe that for many reasons, hygienic and social, the idea of establishing new hamlets would be a mistake, and the *Manual* does go so far as to say that, generally, houses should be built near a village, or at least in groups near a village, as an alternative to forming new groups of houses sufficiently numerous to render reasonable educational and recreative facilities possible.

MEDICAL EVIDENCE AT THE COAL COMMISSION.

THE inquiry which is being conducted by the Coal Commission entered upon a new phase last week with the calling of various witnesses to deal with the questions of health and safety in mines. Dr. J. S. Haldane, F.R.S., who gave evidence on May 14th, said that although coal mining was associated with a number of special dangers, it entailed in this country less loss of life than average occupations. The death-rate from accidents was about double the average of other occupations, but the death-rate from disease, owing to the exceptionally healthy conditions, was much below the average. About sixty years ago the general death-rate among miners was about one-third higher than in average occupations, but since then it had diminished much more rapidly than in other industries. The accident death-rate had diminished during the same period by about three-fourths. The improvement was due, he thought, partly to the better wages earned, partly to improved methods of mining, and partly to greater knowledge and skill and discipline and loyalty. Dr. Haldane gave instances of the way in which knowledge and practice with regard to safety in mining had been retarded by lack of organization. By far the most promising suggestion for preventing disastrous explosions was Sir William Garforth's stone-dusting, but the Treasury refused to provide the considerable sum of money needed to test the plan on a proper scale, and the consequence was that the present Mines Act in its complicated and burdensome provisions against explosions was very much out-of-date. He suggested the establishment of laboratories to further the acquisition of knowledge with regard to special mining problems. Dr. Haldane expressed an opinion rather unfavourable to nationalization, on the ground that so far as health and safety were concerned nationalization would have the effect of stifling initiative and the sense of individual responsibility. Asked in the course of cross-examination whether the Ministry of Health should have control of the health of the miners as well as of the general population, he replied that this would certainly be the case above ground, but underground there might be difficulty in separating health from other supervision. Another medical witness, called on the same day, was Dr. Frank Shufflebotham, Medical Adviser to the Ministry of Munitions, who explained the healthiness of miners by the fact that coal-mining was a selective industry in which the physically unfit had no place. On the other hand, continual working in the mine produced wear and tear, and arterio-sclerosis was often found in its initial stages among miners between 40 and 45 years of age. In spite of legislation, there had been practically no reduction since 1893 in the number of fatal and non-fatal accidents. Roughly speaking, 50,000 miners were injured every year in such a way as to incapacitate them from work for between one and three months. He thought there should be provision in all colliery centres for massage and electrical treatment. Dr. Shufflebotham suggested that provision should be made for reducing the temperature of hot seams; employment should be forbidden in workings where the wet-bulb thermometer reading was so high as to be injurious to health. Great Britain was the only European country in which there was no legislation to regulate the temperature. He also thought that the question of increased candle-power of the safety-lamp should be considered without delay, and that investigations should be made into the causation and prevention of such miners' diseases as beat hand, beat knee, and septic rashes set up by mine water. In the event of nationalization, the head of the Medical Department of the Ministry of Mines should be a member of the Minister's Council with free access to the Minister. Under cross-examination, Dr. Shufflebotham brought forward yet other recommendations—as, for example, that there should be an orthopaedic clinic in every colliery district; that accidents should be notified monthly or weekly and published in the local press, with a view to creating a public opinion on the subject and stimulating the mine management to greater efficiency in prevention; and that there should be a medical officer at every mine, with provision for accidents and illness.

THE FUTURE OF VOLUNTARY HOSPITALS.

As has been said repeatedly with deliberation by the President of the Local Government Board when discussing the Ministry of Health Bill, that bill does not touch treatment of patients in hospitals; but the new Ministry will, through its insurance department, have relations to treatment of insured persons, and when the Poor Law comes to

be overhauled, as promised, something will have to be done about the Poor Law infirmaries and the treatment of Poor Law patients generally. As our columns have borne witness, the subject of the future of voluntary hospitals is much in men's minds, and it is not surprising that the British Hospitals Association has recurred to the matter. It held a conference on the subject last October, when, as reported at the time, a resolution was unanimously adopted expressing the opinion that the interests of the patients and of the community as a whole, the progressive education and training of doctors and nurses, and the prosecution and advance of scientific research, would best be served and provided for by the retention of the voluntary system. With the notice calling this conference was circulated a pamphlet by Mr. Courtney Buchanan, one of the honorary secretaries, in which an attempt was made to define the kind of treatment which should be afforded by the voluntary hospitals. A meeting of the Hospitals Association (p. 647), held last week at the London Hospital, heard an address by Sir Napier Burnett, M.D., of Newcastle, who during the war was employed by the War Office in an inspectorial capacity to advise as to economies which might be effected in the expenditure of military hospitals. His recommendations are stated to have resulted in a considerable saving to the State. We are informed that some time ago, with the assistance of lay and medical friends in Northumberland and Durham, he was influential in creating a North-Eastern Hospitals Association the main object of which is stated to be to urge the Government to hold an inquiry into the present hospital accommodation throughout the country. We do not propose on the present occasion to enter into any discussion of the matter, which has many aspects, and will, we have no doubt, come up for discussion at the Annual Representative Meeting. We have very little doubt that when the Ministry of Health has got to work it will institute something like a census of hospitals, but until the facts as to distribution of the hospitals and the number of beds they provide have been officially ascertained we do not expect that the matter will be carried further by the Ministry.

A SPIROCHAETE IN YELLOW FEVER.

NOGUCHI, working in Guayaquil, has recently claimed[1] to have found a spirochaete (a leptospira) in guinea-pigs inoculated with material from cases of yellow fever. Similar bodies were seen by dark-ground illumination in the blood and liver of patients who had died of yellow fever. The spirochaete closely resembles that previously described in one type of infectious jaundice. These two diseases resemble each other clinically, and it will therefore not be surprising should they be shown to be due to similar parasites. The observations made by Noguchi were perhaps not as extensive as might be wished, and it will be well to await more confirmatory work before accepting this latest discovery. If it proves to be true it will, of course, be very important. There is also a suggestion from Japan that a seven-day fever which occurs there is due to a spirochaete. It seems possible, therefore, that before very long yellow fever and dengue may be classified as spirochaetal diseases.

THE ROCKEFELLER FOUNDATION.

THE programme of the Rockefeller Foundation for the present year provides for extensive work in public health and education, and for the completion of war work. The estimated income of the fund in 1919 is 6,750,000 dollars, and the budget comprises an expenditure of 2,367,130 dollars for public health purposes, and 3,726,504 dollars for medical education. The public health activities to be carried out during the year will consist chiefly of efforts against yellow fever, tuberculosis in France, malaria, and hookworm disease. The Yellow Fever Commission, with General William C. Gorgas at its head, in order to define the problem accurately, visited in 1916 all countries in South America in which yellow fever had appeared in recent years. Before this it was supposed that there were many centres in South and Central America where this disease was constantly present in an endemic form, and therefore points from which the disease might be carried. It was found, however, that the particularly dangerous focal points were few. Hence results of great importance are expected to follow energetic measures, and the Commission expressed the opinion that the total eradication of yellow fever was feasible. The campaign against hookworm disease will be waged during the present year in twelve states of America, and twenty-one foreign states and countries. In addition to this public health work, which will be carried out by the Foundation's International Health Board, appropriations have been made for special studies and demonstrations to be made in mental hygiene, for the creation and maintenance of a school of hygiene and public health at Johns Hopkins University, and for the development of public health nursing. The chief work in medical education will be the development of training in modern scientific medicine in China through the Foundation's China Medical Board.

[1] *Journal of the American Medical Association*, vol. 72, No 3, January 18th, 1919.

CONTROL OF VENEREAL DISEASE IN FINLAND.

FINLAND, like Norway and Denmark, abolished the compulsory regulation of prostitution several years ago. But while the supervision of prostitutes by the police was abandoned in 1907 by Finland as a whole, Helsingfors and some other Finnish towns adhered to the practice of compulsory sanitary control of prostitutes. The work of the "Sanitätsbüro"—the institution concerned with the supervision of the prostitute in Helsingfors — was much disturbed in 1917 by the revolution and strikes, and its functions on three occasions were more or less in abeyance. The incidence of venereal disease during that year —as shown by the notification of new cases—varied so much according to whether the operations of the Sanitätsbüro were partially suspended or in full swing that Dr. O. von Hellens[1] ventured to generalize therefrom as to the effect of regulation of prostitution upon the prevalence of venereal disease. In 1914 the weekly attendances at the Sanitätsbüro were between 150 and 250. Next year they were between 225 and 275, and in 1916 between 200 and 250. This average was maintained early in 1917, but in the middle of March there was a sudden fall. The attendances fell still more in April, the period from the middle of March to the beginning of May being marked by few attendances and admissions to hospital. But the fall in the notifications of gonorrhoea in women at this period (which coincided with the first phases of the revolution in Russia) was quickly followed by a considerable rise in the incidence of gonorrhoea among men. The same phenomenon occurred in July, when the military strike was taken as a signal for many prostitutes to absent themselves from the Sanitätsbüro. Ulcus molle followed the same curves as gonorrhoea; its apparent decline among women was quickly succeeded by its increase among men. The figures for new cases of syphilis did not, however, coincide with those for gonorrhoea and ulcus molle, and this, in Dr. von Hellen's opinion, was so because in syphilis the period between infection and diagnosis is more variable and often longer than in the other venereal diseases. His paper was, in effect, a plea for the compulsory medical control of prostitutes, but he admits that this system as practised in Helsingfors is capable of improvement.

[1] *Finska Läkaresällskapets Handlingar*, July, 1918.

R.A.M.C. MEMORIAL SERVICE.

A SERVICE will be held in St. Paul's Cathedral at 12 noon on Wednesday, June 25th, in memory of the officers and men of the Royal Army Medical Corps who have fallen in

the war. Applications for tickets should be made before June 12th to Captain A. R. Wright, D.S.O., R.A.M.C., personal assistant to the Director-General, Army Medical Services, War Office, Adastral House, Victoria Embankment, E.C.4. It was at first announced that the memorial service would be held on June 12th.

Medical Notes in Parliament.

Ministry of Health Bill.

Parliamentary Under Secretaries.

ON report on the Ministry of Health Bill in the House of Lords on May 20th, Viscount Sandhurst, for the Government, recalled that in Committee the Lords had by a very large majority struck out the proposal to allow the appointment of a second Under Secretary. The Prime Minister took the view that one of the Parliamentary Under Secretaries appointed to the Ministry in the first instance should be in the House of Lords, and on the third reading an amendment would be moved to allow of the appointment of two Under Secretaries on this understanding.

Government Policy as to Consultative Councils.

Referring to the doubts expressed in Committee as to the desirability and usefulness of the proposed consultative councils, Viscount Sandhurst observed that the councils were to be constituted by Orders in Council, which were to lie on the table of each House for thirty days. The Government attached importance to the provisions of the Draft Order. They were the powers of initiation by the consultative councils and regularity as to meeting. By the power of initiative the consultative council would be empowered to report on any matters relating to health. The Minister would give a subject to the council on which to report, and upon which he would ask their advice; the council in turn could send up any report it chose to the Minister, and he should receive and consider it. Exception was taken on the score of expense because the words, "reasonable compensation for loss of remunerative time," occurred in the bill. It was feared that another vast army of salaried officials would be created to be at the beck and call of the Minister, but the result would be quite opposite. Upon these councils the Ministry would rely for outside help—acting as a spur or a critical body—to aid the Minister. The Minister would not be the creature of the councils any more than the councils would be the humble followers of the Minister or of the permanent officials. It was desired to get the aid of those who could not afford to lose salaries or wages while engaged on such public work. Gratuitous work had been well done by leisured people, but it was hoped to reach those who had not leisure but could give advice. These could not be got without compensation.

Of the four councils proposed to be set up two were of first importance. The first was the medical council, and everything that had to do with health depended on the medical profession. The Government wanted to secure the whole-hearted and regular co-operation of the profession as a whole, and some lukewarmness could be imagined if the profession had no place in the organization and machinery. It was true that there were able medical officers within the walls of the department, but more than that was wanted. The field should be so wide as to cover the whole ground. While it had been said that a more extended bureaucracy was to be set up, he thought that the opposite would occur—there would be a check upon bureaucracy. The reasons for forming an Insurance Consultative Council were different. This council would deal with matters affecting the work of the approved societies. The establishment of the new Ministry would mean that some of the Insurance Commissioners would disappear, and the Ministry would need the fresh knowledge and experience of persons administering these societies. The Council would, so far as approved societies were concerned, take the place of the Advisory Committee set up under Section 68 of the original Act. The Government was willing to accept an amendment put down by the Marquis of Salisbury that the Orders in Council in regard to consultative councils should be subject to the resolutions of both Houses of Parliament.

Later in the proceedings Viscount Sandhurst accepted an amendment moved by Lord Salisbury to secure that an Order in Council to set up a consultative council should not be effective without a definite resolution moved and carried in both Houses of Parliament.

Enforcement of the Law as to Patent Medicines.

Lord Bledisloe moved as a new clause: [(8) "The Minister shall have power to institute such proceedings as may be necessary to enforce compliance with the law relating to the sale or advertisement of any patent, secret, or proprietary remedy or appliance."]

This, Lord Bledisloe said, really embodied one of the many strong recommendations of the Select Committee on Patent Medicines which reported on the eve of the outbreak of the war. The evidence showed that the law to a large extent provided for the protection of those purchasing, on the strength of fraudulent advertisements, quack, and sometimes poisonous, drugs, and suffering in health thereby, but that no department considered it its special duty to institute prosecution.

Viscount Sandhurst said that further consideration had been given to this very important subject. But the more it was considered the more difficult and complicated it was found to be. The departments concerned were the Local Government Board, the Customs and Excise, the Privy Council, the Post Office, and the Home Office. The amendment really stated the law as it stood; it did not propose any new power. So far as the Local Government Board was concerned, the new Minister would take over powers and duties which would include the Food and Drugs Act of 1875, but proprietary medicines were specifically excluded from that Act. The Customs and Excise prosecuted for breaches of law in connexion with stamp duty—amongst others, vendors of patent medicines. But that was a Revenue matter, and must be left in the hands of the Revenue authorities. The Privy Council was indirectly concerned in connexion with the Pharmaceutical Society, which prosecuted for the illegal sale of poisons, and not the Privy Council. The Post Office prosecuted for the transmission of indecent matter through the post. That was a subject of Post Office administration, and could not, he was advised, be transferred to another department. The Home Office might receive complaints, but it was the business of the aggrieved person or of the local police to prosecute, and for these purposes the local police were not under the Home Office. Nothing more could be effected so long as the law remained unchanged, but the Public Prosecutor was, in grave cases, at the service of any department. As soon as the Minister could, he would suggest amendments in the law. The Government hoped that Lord Bledisloe would be satisfied with this assurance.

Viscount Haldane thought the reply unsatisfactory. A private person in England was looked upon to prosecute, but in Scotland the case was different. He agreed that the law would have to be put in order and extended, but there was a great deal on the statute book which ought to be enforced, and was not enforced because no one had sufficient interest to do so. If the new clause were inserted in the bill it would be the duty of an official to watch these things and take proceedings, and it would stir up interest in the Ministry of Health in getting the law amended.

The Earl of Desart (who was for some years Public Prosecutor) said that there would be no difficulty if the power of starting prosecutions were concentrated in the Ministry of Health to continue the work through the proper departments.

Lord Stuart of Wortley said that Lord Sandhurst's answer would have been good if the intention were to confer exclusive power of prosecuting on the new Minister, but it was not.

Lord Sydenham said one argument for the amendment was that the vendor of quack medicines when successful went far to defeat the object of the Health Minister. People who dosed themselves with certain patent pills (which he named) were not likely to take the remedy which would cure them, and though these pills did not do harm they did not do good. Nobody was so suitable for instituting prosecutions, if they ought to be instituted, as the Ministry of Health.

Viscount Knutsford, urging acceptance of the clause, said he had seen tragedies happen from the sale of patent medicines. It was impossible for women who had gone to a certain class of quack to take upon themselves the prosecution of the man who had injured them. The clause would give the Minister power to prosecute, and public opinion would make him do so.

The Lord Chancellor said it was by no means an advantage to duplicate the machinery for prosecution. On the contrary it wasted energy. If the Minister of Health was directed to institute prosecutions one of two things would happen. He would either want a new legal staff of counsel and solicitors to make themselves responsible for these prosecutions or the Minister would go to the existing prosecutors and the Director of Public Prosecutions to prosecute on his behalf. The ultimate judge of any prosecutions of the slightest importance must be the Attorney-General. He thought the point of substance pressed was that there was no one department responsible on matters cognate to questions of health whether or not a prosecution should take place. He suggested that before the third reading of the bill Viscount Sandhurst and himself should have some discussion with the Attorney-General and the Director of Public Prosecutions, when they might be able to make a proposal or communicate some information. Then if their lordships were not satisfied it would still be possible to propose an amendment.

On this assurance Lord Bledisloe withdrew his amendment.

Scottish Board of Health Bill in Lords.

The Scottish Board of Health Bill was taken in Committee of the House of Lords on May 15th, and all its clauses were passed.

On Clause 2, relating to the general powers and duties of the Board, Lord Forteviot (Sir J. Dewar) did not move an amendment to bring in powers "for the housing of the people in sanitary dwellings," because he had been assured that the bill made provision for this.

On Clause 4, relating to the transfer of powers and duties to and from the Board, Lord Forteviot wished to introduce a fresh subsection to establish a consultative council to advise the Board in matters affecting the health in the Highlands and Islands, and in matters affecting the administration of the Highlands and Islands (Medical Service) Fund. Lord Stanmore said that the Government was most anxious that the valuable work inaugurated by the Highlands and Islands Board should

be continued, and promised that such a consultative committee as was suggested would be set up as part of the machinery of the Act; but it appeared undesirable to make a special statutory recognition of one consultative council when other councils would be required to be set up to deal with other interests. The amendment was withdrawn.

On Clause 6 the Government accepted an amendment by Lord Haldane to provide that in the making of any staff appointments there should be no discriminations for reasons of sex between men and women.

Rabies.—Major Astor stated, in reply to Sir F. Hall on May 15th, that antirabic treatment, similar to that given at the Pasteur Institute in Paris, had been given at Plymouth since October last, and could now be given in London. It had not been necessary to send any case to Paris for treatment for the last six months. Mr. J. F. Green asked, on May 16th, whether the alleged microbe of rabies had ever been indisputably identified; how the results of the *post-mortem* examination of the carcass of an alleged mad dog differed from those of dogs suffering from any other form of acute cerebral irritation; and whether the Minister was aware that there had been more than three thousand deaths from hydrophobia in persons who had been protected against it by antirabic virus at the various Pasteur Institutes. Sir Arthur Griffith-Boscawen, in a written reply, said that the causal agent of rabies was cultivated artificially by Noguchi at the Rockefeller Institue, U.S.A., in 1912. There were present in the brain of a mad dog specific bodies (Negri bodies) which were diagnostic, and not found in the brains of a dog suffering from any other form of acute cerebral irritation. The Board had no information as to the latter part of the question, but were informed that the number of people who died after treatment was under 1 per cent. as compared with at least 16 per cent. of deaths amongst those who had been bitten by a rabid dog and had not been treated.

Noxious Gases in Mines.—Replying to Mr. Robert McLaren, on May 15th, Sir Hamar Greenwood said that about twelve persons had lost their lives when using portable breathing apparatus since it was first introduced into mines. No cases of injury to health by training had been reported. It was impossible to estimate the loss of life prevented by the use of breathing apparatus for rescue and exploring work, and for dealing with underground fires, but lives had undoubtedly been saved and the risks attaching to such work greatly diminished.

Gold Supply for Dentistry.—Mr. Bridgeman informed Mr. Cautley, on May 15th, that the dental industry was supported during 1917 and 1918 and until last month by a special issue of gold from the Bank of England. In view, however, of the fact that fine gold was now obtainable on the open market at about 103s. per ounce and was likely to become cheaper upon the conclusion of peace, the Government did not see its way to sanction a further release of gold for the industry.

Demobilization: Field Ambulances.—In a written answer to Mr. Ramsden as to the delayed demobilization of men serving with field ambulances, Captain Guest, on May 19th, said that the personnel of the administrative branches of the army services, including the R.A.M.C., were liable to temporary retention as part of the military machinery of demobilization until their services could be spared, or they could be replaced. Men so retained were being replaced as rapidly as possible by men who were not eligible for demobilization. Senior officers had been appointed to inspect registers of units with a view to ensuring that no officers or men who were eligible for demobilization were being retained without good and sufficient cause.

Vaccine Lymph.—Dr. Addison, replying to Mr. Waterson on May 19th, said that the source of the lymph at present used at the national vaccine establishment was a strain of lymph obtained some years ago which had been carried on by repeated transference in the Government laboratory.

The Superannuation of Medical Officers in Scotland.—Sir L. Harmsworth asked the Secretary for Scotland on May 19th when he proposed to place Scottish parochial medical officers on the same basis as English and Irish parochial medical officers in the matter of superannuation. Mr. Munro, in a written reply, said: Any action such as proposed in the question would require legislation. I have undertaken to consider the expediency of an inquiry into the general question of the superannuation of local officials in Scotland, and I have been in communication with local authorities' associations on the subject.

Pensions and the Blind.—Sir Arthur Pearson was the principal witness before the House of Commons Select Committee on Sailors' and Soldiers' Pensions at the sitting on May 20th. He protested against the regulation under which blind officers are debarred from receiving the special blind grant unless blindness had been caused while in action. Non-commissioned officers and men were better treated. He submitted that it was unfair that an officer blinded in any other field of duty should receive only £175 retired pay when the special grant would bring up the amount to £300.

England and Wales.

THE DIRECTION OF THE LONDON AMBULANCE SERVICE.

THE London Ambulance Service is likely, if a report of the Fire Brigade Committee of the London County Council is adopted, no longer to have a medical man as its officer in charge. Dr. T. C. Mugliston, the present director of the service, is retiring shortly, and the recommendation is that a successor should be appointed who does not possess medical qualifications—in fact, an ordinary administrative official—and that any medical advice needed should be obtained by consultations with the Council's medical officer. No reason is given for this departure from a policy which has been followed ever since the setting up of the service. The first officer was Lieut.-Colonel H. J. Barnes, R.A.M.C., who afterwards became medical inspector of camps for German prisoners. Dr. Mugliston was appointed to succeed him in November, 1915. The number of calls with which the L.C.C. ambulance service has had to deal has increased progressively from 2,405 in the first year (1915) to 15,911 in 1918, although the service has continued to be worked from only six stations, shortly to be increased to ten, which will still be inadequate. In a service in which the chief essential is first aid it seems very desirable that the staff should have at its head a man of medical qualifications as well as administrative ability; moreover, in the close relations which are necessary between the ambulance service and the medical staffs of hospitals, a non-medical director would be at a continual disadvantage. There is no question as to the efficiency of the service under its medical direction. The late Chief Officer of the Fire Brigade, Lieut.-Commander Sladen, before his recent retirement gave expression to his appreciation of the way in which the service had met the supreme test of air raid casualties. The projected appointment of a clerk to succeed a medical man—it has appeared on the agenda of the Fire Brigade Committee, but not yet on that of the L.C.C., which is the deciding authority—is a retrograde step, all the less excusable because, whatever may have been the case before the war, there are now large numbers of medical men available with the requisite administrative experience of ambulance work.

A REUNION DINNER.

The medical men of South Shields who have been serving in the R.A.M.C. were entertained to a "reunion" medical dinner on May 15th by their professional colleagues of the borough. The dinner was held under the presidency of Dr. D. Morley Mathieson, chairman of the South Shields Division of the British Medical Association, and M.O.H. for the borough. Dr. W. Gowans, in proposing the toast of the guests, said that doctors from the area had served in the navy and with the army in every theatre of war; he welcomed their home-coming in the name of his colleagues. Dr. J. Macdonald and Dr. J. M. Nicoll, who replied, expressed the gratitude of those who had been on service for the way in which their interests had been safeguarded during their absence; and Dr. W. Hamilton also replied in warm terms. The chairman, in responding to the toast of his health, referred to the work done by Dr. T. O'Callaghan and Dr. G. R. Harland in arranging with him for the reunion. He hoped it would be the first of a series of many meetings at which members of the local profession would foregather socially. The dinner was in every way a great success, and formed a fitting welcome to those who have returned from service to civilian practice. Dr. Morley Mathieson, with whom, we believe, the idea originated, designed the menu card, which gave a list of guests and hosts, with a number of apt and unhackneyed quotations.

A COUNTY DENTAL SCHEME.

We are indebted to Major Burdon Evans (Llandinam, Montgomery) for the opportunity of reading a memorandum on a scheme for the dental treatment of school children which has been established in that county. It took origin from an offer, in April, 1913, by Major David Davies, M.P., the founder of the Welsh memorial scheme for tuberculosis, to guarantee £200 a year for three years towards the salary of a school dentist, and to contribute £50 towards a dental caravan, on condition that the

balance required to equip the caravan should be found, and that the education authorities should pay the expenses of the dentist and of the caravan, and should appoint a second dentist. The idea of the caravan was eventually abandoned, as a more convenient plan was found. When the scheme was being started little or no information could be obtained as to the experience of other authorities, since most schemes for dental treatment apply to large towns. Montgomery is a rural county, where the largest town has a population of not more than 6,000. The scheme was started at the end of 1913 at Newtown, the most central town in the county, where a room was fitted up as a dental surgery, with hydraulic pump chair, dental engine, and all necessary apparatus. In six other towns rooms were engaged, and the dentist, when he visited them, took with him a portable chair and other necessary equipment. The dentist had the assistance of a full time trained nurse. The dentist was also able to visit several villages near the towns.

At the beginning of 1915 a rural dentist was appointed, and it was found that cases containing a folding chair, folding ambulance, and other necessaries for dental surgery could be more expeditiously and efficiently carried in a motor car than in a caravan. The dentist established himself in a convenient centre, went to each school in the vicinity, taking with him whenever possible the village nurse. He did his dental work in a room in the school or in a house near it. The war caused many changes, but a single dentist for the county was appointed early this year. He works under the supervision of the county medical officer, and keeps records on the card index system. A beginning was made with children from 6 to 8 years of age in the elementary schools, although the dentist was authorized to treat others if he considered it necessary, and the school medical officer, if he detected very bad teeth in a child of any age, reported the case to the school dentist. The age limit is raised each year, so that a child having once received attention is attended to each year until it leaves school. Dental work is now being extended to children in the intermediate schools.

Before visiting a school the dentist sends the head teacher an intimation of his approaching visit; his first visit is for inspection, and he makes out a list of the children requiring treatment; he attends to give it about three weeks later. He sends notices for the head teacher to hand to the children to take home to their parents, asking consent to treatment. Parents are invited to accompany their children to the clinic when possible. A charge of 6d. is made for each child treated. If the parents refuse consent a visit from the dentist or nurse has sometimes induced them to change their minds. The general experience is that parents will agree to treatment when children suffer actual pain, but many of them need conversion when it is a question of preventing future trouble. Free advice given to parents on the subject of their children's teeth is considered an important feature of the scheme, and on fair days the dentist sees parents without appointment. The dentist is supplied with tooth-brushes, which are sold at the nominal price of 2d., and short lectures are given to the children in the schools.

Full statistics are, for the reasons mentioned, not yet available, but in the calendar year 1918 seventy-two schools were visited and 1,398 children treated. The number of temporary teeth extracted was 2,767, and of permanent teeth 668; temporary teeth filled numbered 206, and permanent teeth 231. As time goes on it is hoped greatly to improve on the proportion of permanent teeth extracted, but a high rate was to be expected at the beginning of such a scheme.

Scotland.

NON-PULMONARY TUBERCULOSIS.

THE medical report presented to the annual meeting of the Royal Edinburgh Hospital for Sick Children contained the following paragraph:

Tuberculosis is, unfortunately, one of the principal diseases with which this hospital has to deal. It accounts for a very large part of the surgical *clientèle*, and is also very common in the medical wards. Scotland enjoys the unenviable distinction of having more abdominal tuberculosis than any other civilized country—twice as much at least as England generally, and more than ten times as much as Europe and North America. It accounts for one-half of the medical tuberculosis admissions. Analysis of the figures for one of the wards during 1918 shows that more time, expressed as days of residence in hospital, was taken up by abdominal tuberculosis cases than by any other disease—1,026 days. This is very nearly equivalent to three cots out of the twenty-five being permanently occupied by such cases. In view of the other demands on our accommodation it is impossible to do more for these children; yet, when it is stated that at least six months' treatment is needed for the arrest or cure of abdominal tuberculosis, and that the average stay in hospital of these cases was only twenty-three days, it must be admitted that very little is really accomplished with the means at our disposal.

The annual report stated that the total number of children admitted to the hospital during 1918 was 2,174, and the average daily number of patients in the hospital 108; the average duration of residence was fourteen days. In the out-patient department 3,068 new medical cases and 3,727 new surgical cases were dealt with. The number of operations performed in the surgical theatre in the hospital was 844, while in the out-patient department 2,122 minor surgical operations were performed. The ordinary revenue had increased, but in spite of this there was a deficit (including the cost of the convalescent home) on the year's working of over £3,000, owing, in great measure, to the rise in the cost of hospital supplies and in part to the increase in salaries and wages which the directors had felt it their duty to make. Sir John R. Findlay, K.B.E., who was in the chair, said that just before the war it had been intended to bring the claims of tuberculous children before the public in Edinburgh; the Board of Management now had the matter under serious consideration.

HEALTH STATISTICS OF EDINBURGH FOR 1918.

The health statistics of Edinburgh for the past year have not yet been published in full, and the medical officer of health does not contemplate issuing a report of pre-war size (that will come next year); but certain figures are available for comparison, and some lessons may be learned from them. The birth-rate, for instance—that vital factor in the welfare of cities and of countries—fell to 14.3 per 1,000 persons living; this was a little less than the rate for 1917 (14.7) and very much below the rate for 1916 (17.4) and for 1914 (19.8). Some hygienists expect that the return of the men from active military service will cause an ascent in the birth rate. The returns of this year and for 1920 must be awaited before the probability of the fulfilment of this forecast can be estimated, but it savours of optimism. Meanwhile, the total annual number (corrected) of births in Edinburgh was considerably under 5,000, being 4,830 in fact, and since the death-rate for 1918 was 15.2 (actually higher than the birth-rate), the interesting calculation regarding the number of years necessary to double the population ceases to have any real interest, and in its place the health officials will soon be working out the length of time which must elapse before it is halved.

A brighter side of the statistical picture is seen in the infantile mortality rate. This was 94 per 1,000 infants born alive as compared with 123 for 1917, with 100 for 1916, and with 132 for 1915. Since the city scheme for mother and child welfare came into action in May, 1917, those who have been active in its establishment and maintenance may be justified in ascribing to it some of the credit for this welcome improvement. The improvement is to be regarded as real, for the year 1918 was marked by the incidence of two severe epidemics of influenza which did not spare the young children. The neonatal mortality rate, also, was lower than it has been. It was 40.3 per 1,000 infants born alive. This compares well with 41.5 in 1917, with 44.8 in 1916, with 43.9 in 1915, and with 43.7 in 1914. In the pre-war years 1911, 1912, and 1913, the neonatal rate was 42.2, 44.9, and 40.6 respectively. The town scheme for child welfare and for the medical supervision of expectant mothers may justly claim a share of responsibility for the welcome fall in the neonatal mortality. There is a darker aspect of the statistics in the study of the effect of illegitimacy. Whilst the infantile mortality was 94 per 1,000 babies born alive including legitimate and illegitimate, an analysis of the figures showed that the rate for the legitimate children alone worked out at 80 per 1,000 and that for the illegitimates at 198 per 1,000. The same wide and ominous difference was found when the neonatal death-rate was examined: the rate over all was 40.3 per 1,000 babies born alive; for the legitimates alone it was

35.8, and for the illegitimate alone 74.3. Of course it may be urged that other factors than illegitimacy are in action, and that may be so; but no one can doubt that the consequences of illegitimacy have been at work in the production of so marked an excess of deaths amongst the illegitimately born offspring of Edinburgh. Another thing has to be remembered—namely, the absence of the stillbirths from the birth lists and the death lists. There is no registration of these yet, but a fairly accurate system of compulsory notification showed that 238 occurred in 1918, out of a total notification list of 5,404 births (uncorrected).

Ireland.

POOR LAW MEDICAL OFFICERS' SALARIES.

IN pursuance of notice, Mr. Ervine moved, at the last meeting of the Ballymena guardians, to rescind the resolution passed by the guardians at their meeting on March 1st adopting a new graded scale of salaries for the medical officers, and that instead the scale submitted to the committee at their meeting on May 12th by Dr. Stewart, on behalf of the medical officers, setting out £140 as a minimal salary and £200 as a maximal, as originally recommended by the committee, be adopted. Dr. Stewart, medical officer, Portglenone dispensary district, submitted a scale with a maximal salary of £200, to be attained at the end of twenty years' service by annual increments of £4. It was decided to adjourn the matter for a month.

The New Ross (co. Wexford) board of guardians, at a recent meeting, amended the scale of salaries for their medical officers. The new scale commences with a minimal salary of £200, with annual increments of £5 until a maximal salary of £250 is reached. The guardians fixed the maximal salary for the medical officer of the workhouse at £200. Dr. Hennessy, Irish Medical Secretary, British Medical Association, addressed the guardians on behalf of the Poor Law medical officers.

With regard to the filling of vacancies in the Irish Poor Law medical service the following editorial comment appeared in a recent issue of the *Irish Independent*:

Young doctors are showing no great eagerness, to put it mildly, in seeking to fill dispensary vacancies. Within recent weeks no one can fail to have been struck with the unusual number of advertisements which have appeared in the press inviting applications from medical men to look after the health of the poor in the various unions. In many instances the guardians have met to make the appointment only to find that there were no applications before them. This is not to be wondered at, considering the miserable salaries offered in many unions to men expensively trained at universities or medical colleges, and expected at every hour of the day or night to engage in vital and exacting work often entailing serious risk to their own health. Whatever might be said for the salaries current before the war, there is absolutely no doubt that those offered nowadays are in numerous instances far below that of the average mechanic, and totally inadequate to keep a medical man in decent comfort. Some doctors, by the resolute stand they adopted, have succeeded in obtaining higher remuneration, and it is to be hoped that guardians, when soliciting applications in future, will offer salaries worthy of the acceptance of the members of a noble profession.

Correspondence.

MEDICAL ASSESSMENT FOR PENSIONS.

SIR,—For the past eighteen months I have been a member of the Board for review of pensions awarded to members of the Australian Imperial Force who have been discharged in the United Kingdom or who have returned thereto from Australia.

At present the number may be considered insignificant compared with those dealt with by imperial authorities; but the very material increase of late is indicative of the task which has to be approached. It becomes very apparent that medical assessment for pensions is an important and special subject, and requires much thought and knowledge. The awards made are so varied that one seeks an explanation other than that furnished by the varying individual peculiarities and knowledge of the examiner.

It is not pleasant to read that in Sir J. Albert Flynn's opinion "investigation went to show that either the Revising Board was unnecessary and made mistakes, or the ordinary medical boards were not competent"; "that ordinary boards were too hard on the men"; "the ordinary boards were often very perfunctory" (BRITISH MEDICAL JOURNAL, May 10th, 1919, p. 590). From my experience I fear the strictures are in measure applicable, and there are grounds for attempting alteration to prevent them.

For some time it has been forced on me that the machinery and methods at present applied to medical assessment are, in no little measure, inadequate. It is very certainly necessary that early opportunity should be taken to consider and revise them. There are now many men who have had considerable experience of the difficulties attendant, and in my opinion it would be well indeed if a meeting of representative medical officers, Imperial and Colonial, could be convened, with the view of obtaining their opinions, and the submission of a report on what may now be considered the best scheme to avoid incongruity and abuse.

That there is much ground for thought and argument is obvious, but certain rules could be formulated, a better procedure adopted, a more precise definition of the duties, more comprehensive schedules, and rulings on past cases. These alone would help, but there are many more points to consider that could be submitted.

Perhaps it might be better that the Select Committee on Soldiers' and Sailors' Pensions, now sitting at the House of Commons, should call representative medical assessors to give evidence. I am sure that valuable information will be forthcoming.—I am, etc.,

B. J. NEWMARCH,
Colonel A.A.M.C.

London, S.W.1., May 17th.

SWIMMING IN THE TREATMENT OF PARALYSIS.

SIR,—Your note (May 17th) and the interesting memorandum by Colonel Farquhar Buzzard suggest a mode of treatment which I have often advocated, especially in cases of ataxia, since observing a case of Friedreich's disease many years ago. The patient was a youth aged about 18. His ataxia was so severe that he was unable to stand without support. He told me that he used to be a good swimmer, and thought that he might still be able to swim although unable to walk. I said, "Come along now to my swimming club." He agreed, and we drove to the club. The attendant and I helped him to walk from the dressing-room to the bath. He swam across the shallow end of the bath, using the breast stroke, quite easily and in a normal manner; no defect could be detected in the movements of his limbs. In 1903 I mentioned the case to Hughlings Jackson, who wrote in reply, "What you tell me about swimming in ataxia is very interesting. I wonder how a pseudo-hypertrophic would get on in the water."—I am, etc.,

JUDSON S. BURY,
Major R.A.M.C.(T.).

Manchester, May 20th.

SIR,—I was interested to read Colonel Farquhar Buzzard's memorandum (May 17th, p. 610) because, since February, 1917, we have been carrying on muscle re-education with the limb (arm or leg) floating in water in a swimming bath as one of our methods. Only to-day have I been told that the idea and practice are new.

The advantages of this form of treatment have turned out in practice to be quite what Colonel Buzzard expects, and I would add my testimony in support of his contention that a swimming bath is an essential in the treatment of such cases. We started with an experimental pool which was soon replaced by two pools, warm and cold, 36 ft. long and 20 ft. broad, lined with white tiles. The warm pool contains water at a temperature of from 90° to 100° F., and has a uniform depth of 3 ft. 6 in. This water is kept in turbulent motion by great volumes of compressed air forced into it from orifices in long pipes lying at the sides. Lounge seats along two sides give accommodation for patients sitting immersed to the neck, or resting after exercise in the seething water. The cold or swimming pool has a depth of 7 ft., gradually diminishing to 3 ft. 6 in. This pool supplements the effects of the hot pool as progress is made. Helpless or hemiplegic cases are run down into the pools on wheeled chairs or stretchers along the sloping waterways leading into the two pools. Such patients are accompanied in the water by an attendant, himself a discharged soldier who has undergone the treatment.

Further, at this hospital we are fortunate in having special equipment for following up and improving these first steps or strokes which, in the swimming bath, the patient has been induced to make. Possibly our results are therefore even better than one could have hoped for under a less intensive programme of treatments.—I am, etc.,

JAMES R. KERR, Ch.M.Glas.

The Pilkington Special Hospital,
St. Helens, Lancs, May 21st.

DISAPPOINTMENTS AFTER GASTRO-ENTEROSTOMY.

SIR,—In the interesting correspondence aroused by Dr. Hutchison's paper on this subject one potent cause of disappointment has been passed over too lightly.

While it is true that secondary gastro-jejunal ulceration is probably more frequent than has hitherto been supposed, this condition only accounts for a proportion of the disappointing results. Others are due to the performance of the operation in unsuitable cases.

At one time gastro-enterostomy was regarded as a panacea for all forms of dyspepsia, and, although it is now well recognized that in the so-called atonic dyspepsia, which is due to gastroptosis, the operation is not only unnecessary but harmful, it is not sufficiently realized that it is largely a mechanical operation, and gives its best results in mechanical deformity—namely, pyloric stenosis. As a means of curing ulcers of the lesser curvature and other ulcers of the body of the stomach this operation fails. In such cases more radical treatment, such as excision of the ulcer or partial gastrectomy, should be adopted. In cases of chronic duodenal ulcer without stenosis failure is not uncommon, unless the ulcer is excised at the same time, or the pylorus excluded.

The point I wish to emphasize is that in dealing with chronic ulceration of the stomach or duodenum the surgeon should act according to the conditions which he finds, and not be content with performing gastro-enterostomy in all cases, irrespective of the situation of the ulcer.—I am, etc.,

Manchester, May 19th. GARNETT WRIGHT.

A WHITE QUEENSLAND.

SIR,—A correspondence in *The Times* on "Emigration and Disease: Health in Tropical Australia" is of sufficient importance to demand further consideration in a more scientific medium. It was originated by letters from the High Commissioner for Australia and the Agent-General for Queensland commenting on a news item, and a subsequent correspondent, Dr. Leiper, wrote:

> Your Sydney correspondent has sullied their vision of a pure and white Australian continent by making public through *The Times* a statement by Dr. Lambert to the effect that 23 per cent. of the population of the coast of Queensland is infected by hookworm, and that, if its ravages are not combated, in a few generations it would mean a race of comparative imbeciles and physical degenerates.

It is to Dr. Leiper's letter (April 29th) that I specially wish to refer, and it is possible, I think, by brief quotations to state the special points fairly, independent of the context. Dr. Leiper initiates his comments by premising that:

> It is by actively combating disease, not by ignoring it, that the future welfare of a new country can be best secured,

and proceeds to show, from published records, that the attitude of both correspondents, in refusing to accept the statement, is demonstrably incorrect. He concludes by emphasizing the special necessity in the tropics for complete co-ordination between scientific knowledge of disease prevention and personal and public hygiene, and by castigating the presumed attempt to evade the consequence of a gross neglect of such obligations.

Dr. Leiper's letter, though I think it overstates the case, without question does notably good service. Unfortunately, however, in his indignation at what he holds to be an attempt to evade scientific issues, Dr. Leiper has, I think, fallen into an error not dissimilar to that which he castigates; and in dealing with a wider problem than that actually under discussion, does so in a way which, by prejudging the issue in accordance with already formed convictions, tends to produce a misleading impression, and, I believe, to misdirect opinion on an Australian national problem the import of which, from the Australian point of view, Dr. Leiper does not, I think, fully appreciate. I quote Dr. Leiper's concluding paragraph:

> A London Scot once said that his was a fine country to live out of, and the same remark will occur to any one who reads the illuminating study of *The Conditions of Life in Tropical Australia*, published by Dr. Nicoll, recently on the staff of the Australian Institute of Tropical Medicine. If Australia proposes to attempt to colonize the tropical north from her own States, it is her own affair. But if the appeal is, once more, direct to the homeland, one may be allowed to express the doubt if Britain can spare her most virile and enterprising sons *for a political experiment which is foredoomed* (the italics are mine).

As a native of and practitioner in Queensland, I must protest against consideration of the question as merely a "political experiment," and am convinced that in condemning it as "foredoomed" Dr. Leiper is speaking without full consideration of the subject, and that sufficient evidence does not exist for such a definite and far-reaching statement.

It is regrettable that the general question comprehended in the term "white Australia" (which I shall not attempt to define, but which is sufficiently well understood) was introduced into the controversy in a way which made it appear an essential aspect of the special subject under discussion—namely, the prevalence of ankylostomiasis in certain parts of the coastal districts of Northern Queensland; for surely, however important ankylostomiasis may be in connexion with the health of a community in the tropics, it is not necessarily bound up with the question of tropical disease, nor can its prevalence form an argument in favour of the unsuitability of a locality for a white race.

If the subject of ankylostomiasis is germane to the problem of a "white Australia," the arguments deducible would be entirely against the pronouncement which Dr. Leiper makes in connexion with the latter. One of the fundamental difficulties in the solution of the problem of populating tropical Australia by the introduction of a lower race is that doing so would make the control of tropical disease an infinitely more difficult problem than if the country were populated entirely or predominately by a civilized people of European habits and social organization. Surely, one of the chief difficulties in combating tropical disease (apart from the effect of tropical climate *per se*) is the presence of a large hygienically uncivilized population who are with difficulty supervised as regards disease and sanitation, and who thus form a permanent pool of carriers which effectually checks attempts to control, much less to stamp out or prevent the introduction of the various forms of tropical disease.

Tropical Australia is unique among tropical countries in having, instead of a numerous and prolific gregarious native population, a sparse and rapidly decreasing one. It would surely be a mistake to introduce the former conditions unless and until it be found impossible to populate the country otherwise.

I do not, in this too long letter, propose, nor am I qualified to enter into the various problems, scientific and other, arising in relation with the settlement of Northern Australia by a race not differing inherently in racial origin, characteristics, and traditions from that from which the Australians have sprung; nor yet into the alternative possibilities in connexion with the populating of tropical Australia from among the various coloured races. But I ask forbearance for a few points which appear to bear out my contention that the scientific issue is not yet decided.

Death-rate and Birth-rate

of Queensland (most Northern State), and Victoria (most Southern State), 1917; and of England and Wales, 1914.

	Death-rate.	Birth-rate.
Queensland	9.64	29.09
Victoria	10.36	23.50
England and Wales	13.6	23.6

During 1914–15 I was regimental medical officer to the 9th (Queensland) Battalion, which formed part of the original Anzac Division. I examined every recruit, and it was my daily task to make myself intimately acquainted

with the physique and stamina of the men. In no respect, that I could see, did the men from Northern Queensland fall short of the others.

I have during the last four and a half years seen the best (and others) of the British troops, and also of other dominions and other nations. I do not believe that in any respect is our Queensland standard inferior to any, in vitality and stamina, while the fact that the proportion of killed in the Australian army is higher than in any other is sufficient to prove the absence of any marked psychic degeneration.

The proportion of men found unfit for any form of military service is higher in Great Britain than in any other nation taking part in the war (*vide* Mr. Lloyd George's election manifesto). I cannot give figures for the rate in Queensland, but it appears to me that in non-tropical countries there may be social and economic causes of degeneracy (overcrowding, etc.) which to some extent offset the advantages over countries with climatic disabilities.

White Australia, a *political* experiment. It may not be without interest in this connexion to note that for the triennial Interstate Medical Congress of Australasia, which was to have been held in Brisbane in 1915, the subject chosen for general discussion (subject to ratification by the visiting states) by the medical profession of Queensland, was the possibility of the permanent settlement of Northern Australia by a healthy "white" race. It was agreed that the problem was primarily medical, and in this respect was still an open as it was a pressing one. It was intended that if possible there should be present at the congress one or more men of international repute and experience in tropical medicine, so that the discussion should be authoritative and not parochial.

Without doubt, a "white Australia" would have to be paid for, for a time at all events, by special legislation over those parts of the continent more favourably situated as regards climatic conditions. Much, as Dr. Leiper points out, has to be ensured regardless of some possible economic loss; I may instance opportunity for periodical change, especially for the young and women; high rate of remuneration, allowing the utilization of all the resources of civilization in counteracting the disadvantages of climate; a social system making these advantages available for all ranks; and special provision for a high standard of public health government, and for education of the people in methods of life most suitable to the conditions. "White Australia," even if found a scientific possibility, would have to be paid for; but surely that is not the primary question.

Dr. Leiper's experience and eminent scientific position make it difficult for one with incomparably less experience and special knowledge to attempt to traverse his attitude. But it is possible that the absence of strong feeling on the subject may have led him to acquiesce too readily in the insolubility on "white" lines of a tropical problem (which presents special features and for which there exists no exact parallel), whereas the feelings of the "native born" demand nothing short of complete proof before agreeing to so undesirable an alternative.

For is not the ideal of an Australia peopled not by a congeries of entirely dissimilar types, but by a race homogeneous, and not lower in civilization, habit, tradition, and aspirations, than that from which the empire is founded, right and fitting, and greatly to be desired? It is in considering the alternatives that the desirability of a white Australia becomes evident. It is from countries other than the home of the empire that the "white Australia" idea has had most sympathetic appreciation—more even, in some respects, than in Australia herself. Americans, South Africans, and Canadians appreciate fully the desirability of a country being free from the admixture of people which cannot be blended into a homogeneous nation, even if such types be of a civilization not in any respect "inferior" to our own. It is on this basis that the *modus vivendi* between Australia, China, and Japan must evolve. But the example of the negro problem in America must urgently affect the question of the free admission of a "lower" type.

Active service for some years has put me out of touch with professional opinion in Australia, and with the results of the special work done at the Institute of Tropical Medicine at Townsville (Queensland). I am not acquainted with Dr. Nicoll's book, on which Dr. Leiper appears to some extent to have based his views, but I am of course aware that a not inconsiderable portion of the profession in Australia, especially in the south, is opposed to the ideal, some on scientific, more, I think, on political and economic grounds.

I submit that the question is an open one, is of imperial concern, and that it calls for serious consideration and assistance in its solution from those in the medical profession within the empire qualified to give such; among them Dr. Leiper holds a notable place. The first essential, it seems to me, is to stamp it as, primarily, a scientific, and not a political, problem.—I am, etc.,

A. G. BUTLER, M.B., B.Ch.Camb.,
Colonel A.A.M.C.

France, May 8th.

A TUBERCULOSIS SERVICE.

SIR,—Certain recent comments in the medical press suggest some misunderstanding regarding the scheme for a tuberculosis service unanimously adopted by the London Conference of sixty representative tuberculosis officers. As these comments might possibly injure the Tuberculosis Society, I beg leave to define the position as it appears to me.

We never suggested either that a separate tuberculosis service, divorced from the existing public health service, should be created, or that medical officers of health should be excluded from dealing with the tuberculosis problem as regards housing, illegal overcrowding, or infected food. What the Tuberculosis Society has proposed and would welcome is that an *ad hoc* clinical tuberculosis service, with district commissioners, should be established within the general public health service.

Our view, moreover, is that in the public interest the chief clinical tuberculosis officer should be (1) the administrative officer in regard to the clinical prevention of tuberculosis and all measures for diagnosis and treatment; and (2) the immediate expert adviser on these matters to his public health committee or tuberculosis subcommittee, to whom he should have direct access.

As a clinical administrator he should receive copies of all notifications of tuberculosis direct from the medical officer of health, and of all certificates of deaths from tuberculosis direct from the registrars in his area.

At present, when the tuberculosis officer, nurse, or visitor finds conditions of housing or sanitation which seem to require the direct intervention of the sanitary authority, the facts are immediately reported by the tuberculosis officer to the medical officer of health. Nobody has ever advised any change in this procedure. We have never suggested that the tuberculosis officer should himself rectify these conditions, or that he should undertake disinfection, all these things being obviously within the province of the medical officer of health.

That being so, the point of the following paragraph on discharged tuberculous soldiers in your issue of May 3rd seems to be somewhat obscure:

> The Society of Medical Officers of Health *recently* pointed out to the Local Government Board that its circular of *December 4th, 1918*, in regard to the *home visiting and after-care* of discharged soldiers and sailors suffering from tuberculosis might be interpreted as making the tuberculosis officer directly responsible for measures in this connexion. In reply, the Board stated that the circular "was not intended to suggest in any way that the tuberculosis officer should, *except as far as his clinical duties are concerned*, act otherwise than under the direction of the medical officer of health."

All the italics are mine, and focus attention on the obscurity of the whole paragraph. Does any one suggest that home visiting and after-care of tuberculous sailors and soldiers are not essentially clinical duties for which the tuberculosis officer is therefore directly responsible? If he or his assistants should find insanitary conditions, the facts would be at once reported, as heretofore, to the medical officer of health. The alternative is that the home of the unfortunate tuberculous pensioner is to be visited by two lots of officials, and it is difficult to understand why any medical officer of health should wish to add to his responsibilities by undertaking the direct supervision of these measures.—I am, etc.,

HALLIDAY SUTHERLAND,
President of the Tuberculosis Society.

London, May 20th.

INSURANCE: A FRESH START?

SIR,—I have just completed the enormous task of reading the report of the Insurance Acts Committee on the Revision of the Conditions of Service, etc. My own life on that committee was so ephemeral that I can as a mere spectator express my admiration of the ingenuity and subtlety displayed in the treatment of a most complex subject. But the thought arises whether, after all, this report, with its concrete backing of many months' solid hard work, is not an attempt at keeping alive a service that is wrong, in principle, from its very foundations.

The basis of any service, whether medical or otherwise, must be, if that service is to be efficient, adequate return for the work done. Here we have a service which consists of isolated units of work, either complete in themselves or as part of a small series; essentially indefinite in incidence and duration; governed by no known law. And, on the other hand, we have a fixed and invariable sum of money, based on the total number of persons liable to treatment. However carefully that sum is determined it must inevitably be too small or too great, varying both as to time and place.

Surely the only logical method of remuneration is for the person who performs the service to receive a reasonable fee or reward for each act of service. Two objections are promptly raised to such a procedure: (1) That the Government must know the extent of its liability; (2) that payment for every attendance would lead to exploitation by unscrupulous practitioners.

As regards (1), it is surely no part of the duty of citizenship that one section of the community should relieve the whole state of a liability which is a function of government. It would have been as reasonable to ask an engineering firm during the late war to provide, for a fixed sum, as many 18-pounder shells as shall be required by a battery of F.A. in six months. It is at last recognized that it is in the interests of the State that its citizen units should receive the best medical and surgical attention that can possibly be afforded, and that best will obviously be obtained only by appropriate payment. As to objection (2), there will certainly be a number of men who, if paid for work done, will attend unnecessarily with the single object of increasing their incomes. But it is quite possible to set up machinery that will deal competently with such persons, and the great bulk of the medical profession would lend its support to this end.

Cannot we now say to the Government that we have tried this service where the sickness liability is underwritten by the individual practitioner, and that we will have no more of it? I do not suppose any one imagines that we are going on with the old capitation rate now with a 10 or 12 per cent. advance. Why not, then, start afresh with a service where the insured would be able to get the best possible treatment under all circumstances? It is worth it to the State, and the cost would be nothing like as great as many imagine. And an additional asset of no mean value would be the psychological effect on the doctor, who would realize that his income was strictly proportionate to his work—a most welcome tonic after a fatiguing day.—I am, etc.,

Salford, May 18th. STANLEY HODGSON.

WEBSTER'S TEST FOR T.N.T. DERIVATIVES IN URINE.

SIR,—Kindly allow me to correct an error in the Lettsomian lectures on toxic jaundice. It is there stated (p. 608) that Webster's test was discovered by J. Webster, F.I.C. This important test was, however, discovered by T. A. Webster, A.I.C., when collaborating with me in a research into the causation and prevention of T.N.T. poisoning, and it conduced materially to the successful issue of that inquiry. It is all the more necessary to make this correction because Mr. J. Webster, F.I.C., has collaborated with Dr. Willcox in similar investigations quoted at the end of the lecture, so that the slip might produce prolonged confusion.

May I also be allowed to draw the attention of Dr. Willcox to Special Report No. 11 of the Medical Research Committee on "The Causation and Prevention of Trinitro-toluene (T.N.T.) Poisoning," as it appears to have escaped his attention, since he only quotes my work from an incomplete summary of a speech made at a meeting? He will there find a considerable discussion of the relationship of the pathology of the blood changes, liver atrophy, and aplastic anaemia. The enormous decrease in red blood corpuscles, not associated with other changes such as are seen in pernicious anaemia, was first detected by myself and Dr. G. A. Wyon in a case seen at Woolwich Arsenal, and the condition was afterwards diagnosed as aplastic anaemia by Dr. Hubert M. Turnbull, from pathological examination of the organs after a fatal termination of the case. This history is all recorded on p. 21 of the Medical Research Committee Special Report referred to above.—I am, etc.,

BENJAMIN MOORE.

Lister Institute, Chelsea Gardens, S.W.1.
May 20th.

Obituary.

CHARLES GORING, B.Sc., M.D.LOND.,

P.M.O. H.M. Prison, Manchester.

WE regret to record the death of Dr. Charles Goring, Principal Medical Officer of H.M. Prison, Manchester. He entered University College, London, with an entrance scholarship; he graduated B.Sc.Lond. in 1895, and held the John Stuart Mill scholarship in philosophy. He won an entrance medical scholarship to University College Medical School, took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1896, graduated M.B. in 1899, and took the M.D. in 1903.

He had a brilliant career at the College and Hospital, making many friends through his enthusiasm and originality of mind. He was demonstrator of histology in University College, and after leaving the hospital became house-physician to the Great Northern Hospital. He had intended to specialize in nervous and mental diseases, but his health broke down after an attack of scarlet fever, and he spent two years as a ship surgeon, visiting many parts of the world and doing some transport work during the South African war. When his health had been re-established he went to Paris for a year to study nervous diseases, and lived there among a group of writers and painters, including the late Mr. John Macdonald of the *Daily News*, whose daughter he married in 1904. After leaving Paris he joined the staff of Broadmoor Asylum as deputy medical officer, and a year or two later entered the Prison Service, becoming deputy medical officer at Parkhurst Prison. While holding that appointment he began the collection of the anthropological observations which formed the basis of the report to which Sir Bryan Donkin refers below. In 1913 he issued a schedule of anthropological data, and while at Parkhurst contributed to the Drapers' Company Research Memoirs a report on the inheritance of phthisis and insanity. He was elected a Fellow of University College, London, in 1914, and in 1915 he contributed a paper on the feeble-minded criminal to the *Proceedings* of the National Association for the Feeble-minded.

Dr. Goring is survived by his wife and two young children.

We are indebted to Sir H. BRYAN DONKIN for the following brief tribute to Dr. Goring's memory: His recent death is a grievous blow to those dear to him and a source of deep regret to all who knew him well. I was acquainted with him from the time he joined the Prison Medical Service, and met him very often on the many occasions of my visits to the hospital at Parkhurst Convict Prison, where he was on the staff for several years.

It was during those years that he contributed by far the largest individual share of observations to an inquiry that had already been entered upon with the help of some of the prison medical officers in order to test the value of certain doctrines, concerning the nature of criminals, which had attained wide notoriety, and were generally known as those of the school of Lombroso. When all the very numerous and laborious observations deemed necessary had been made, the whole mass of material, as well as the work of drawing up a report on it, was given to Dr. Goring in view of his recognized ability and keen interest in the subject. This report was ultimately published in 1913 by the Government, under the title of "The English Convict: a Statistical Study." It bears striking testimony to Dr. Goring's exceptionally great ability, to his immense powers of work, and to his unswerving devotion to the object he had in view, of arriving at the true meaning of the material

with which he had to deal. In consequence of the publication of this great work, and the wide interest it raised both here and abroad, Dr. Goring received the Weldon prize and medal of the University of Oxford.

It was owing to the great prominence of this study of the English convict that, when I was writing on the subject of mental defect in criminals in the *Journal of Mental Science* in January, 1917, I could not possibly pass over without comment some of the conclusions arrived at and the methods employed by Dr. Goring from which I differed widely. This was replied to by Dr. Goring in that journal at considerable length in April, 1918; and my further criticisms, written late in that year, were printed in the number for April, 1919, which was issued only a few days after Dr. Goring's death on May 5th. This sad concurrence of happenings has caused me great regret. The first news I had of Dr. Goring's death was on May 12th. This difference of view-point on the part of Dr. Goring's work between him and myself and the unavoidable appearance at this time of the article referred to, make me all the more anxious to record my own great regard for him, and my whole-hearted admiration for the exceptional degree of ability, zeal, and conscientiousness that informed all the work he took in hand, including the numerous minute but highly responsible duties of a prison medical officer. He will long be remembered by all who knew him well as a man of outstanding intellectual gifts and singularly attractive personality.

JAMES MACKENZIE BOOTH, M.D.,

Consulting Surgeon to the Aberdeen Royal Infirmary.

THE announcement of the death of Dr. James Mackenzie Booth has been received with great regret by his friends in Aberdeen and by many graduates of the University of Aberdeen. He was the son of Dr. James Booth of Aberdeen, and was born there in 1855. He was educated at Aberdeen Grammar School, graduated M.A. in the University of Aberdeen in 1875, M.B., C.M. in 1877, and M.D. in 1888. After acting for a short time as medical officer in Sutherlandshire he studied in Edinburgh, and then went to India as surgeon on the Duke of Buccleuch's yacht. In the following year, after spending some time in Vienna, he settled in Aberdeen. From 1880 to 1891 he was surgeon to the ear and throat department of the Aberdeen Dispensary, and from 1886 to 1890 anaesthetist to the Royal Infirmary. After holding the appointment of assistant surgeon to the Infirmary for two years he was appointed surgeon and lecturer on clinical surgery in 1892; he had previously been university lecturer on diseases of the ear, nose, and throat. In the earlier part of his career he gave a great deal of attention to these subjects, and was secretary of the Otology Section at the annual meeting of the British Medical Association in Newcastle-on-Tyne in 1892. Afterwards he practised general surgery, retaining, however, an interest in the special subject in which he first distinguished himself. He was very thorough in his work, well acquainted with the literature of surgery, and much esteemed by students as a sound practical teacher.

Dr. Mackenzie Booth had considerable literary gifts, which he used to good purpose. His skill in description may be judged by an article he published in this JOURNAL in April, 1888, in which he related the story of how an old man of notoriously intemperate habits was found one morning consumed to a cinder in a hay loft. His comments on the story show the good judgement and reticence which always characterized his writings. Dr. Mackenzie Booth was for many years honorary secretary of the Aberdeen, Banff, and Kincardine Branch of the British Medical Association, and took a great interest in the work of the Association, in which he made many friends, who valued the charm of his character and the equality of his judgement. He was also an active member of the Aberdeen Medico-Chirurgical Society. He was long greatly interested in the work of the Aberdeen Volunteer Medical Staff Corps, from which he retired with the rank of surgeon captain. His hobby was photography, in which he attained great excellence. Dr. Mackenzie Booth was a widower, and is survived by one son.

WALTER THOMAS CLEGG, F.R.C.S.EDIN.,

Honorary Surgeon, St. Paul's Eye Hospital, Liverpool.

THE sudden death of Mr. Walter T. Clegg after convalescence from pneumonia came as a painful surprise to many of his professional friends. Of Manx descent, he was born in Liverpool in 1859. He was educated at Liverpool College and studied medicine at the Liverpool Royal Infirmary School of Medicine. He became M.R.C.S. in 1880, and after holding various residential appointments settled in general practice in 1883. Mr. W. T. Clegg soon established for himself a reputation for sound conscientious work and assiduity. For some time he held the post of honorary assistant surgeon to the Liverpool Cancer Hospital, where he did excellent work and published several cases of surgical interest in the *Liverpool Medico-Chirurgical Journal*. Later on he paid special attention to diseases of the eye, was appointed honorary surgeon to St. Paul's Eye Hospital, and thus built up a reputation as an ophthalmic surgeon. In this capacity he acted as surgeon to the West Derby and Prescot Unions and was honorary ophthalmic surgeon to the Waterloo Hospital. Mr. Clegg was of a quiet, somewhat reserved disposition, a staunch colleague, and most painstaking in his professional duties. As an operator he was neat and methodical and kept his knowledge abreast of the times. At the time of his illness his opinion in diseases of the eye was frequently sought, and many of his patients will regret the loss of such a sound practitioner. He leaves a widow and seven children. One son is a lieutenant in the army and one daughter a student of medicine at the University of Liverpool.

At the funeral, on May 17th, there was a large attendance of his professional friends and representatives of the public institutions with which he was connected.

SIR W. D. CAMPBELL WILLIAMS, K.C.M.G., C.B.,

Surgeon-General Australian Army Medical Corps.

SURGEON-GENERAL SIR WILLIAM DANIEL CAMPBELL WILLIAMS, K.C.M.G., C.B., of the Australian Army Medical Corps, died of influenza at Melbourne on May 10th. He was born at Sydney on July 30th, 1856, the son of the late Dr. W. G. Williams; he was educated at Sydney Grammar School, and at University College, London, where he was gold medallist in surgery. He took the diplomas of M.R.C.S. in 1879, and L.R.C.P.Lond. in 1880. After his return to Australia he was appointed to the staff of St. Vincent's Hospital, Sydney, to which he was for many years surgeon, and at the time of his death consulting surgeon. He received a commission as staff surgeon in the New South Wales Artillery, and in 1885 went to the Sudan as P.M.O., with the rank of surgeon-major, of the New South Wales contingent sent to the Sudan war, the first armed contingent sent overseas by one of the Dominions as part of the Imperial Forces. In 1900 he went to South Africa as colonel and P.M.O. of the Australian and New Zealand contingents, and served there also as P.M.O. of General Hamilton's and of General Hunter's forces, receiving the local rank of surgeon-general, and the C.B. He went overseas for the third time in 1914 with the Australian Forces, served in the war during 1914–16, and received the K.C.M.G. on June 3rd, 1916.

WE regret to record the death, on May 8th, at Camberley, of Dr. CHARLES EDGAR LEA, physician to Ancoats Hospital, and assistant medical officer to the Manchester Royal Infirmary. He was born at Sandbach, Cheshire, in 1882, and received his medical education at Manchester University and King's College, London. He graduated M.B. and Ch.B.Vict. in 1904, and M.D. (with commendation) five years later, and obtained the M.R.C.P. diploma in 1912. After holding the post of house-physician to the Manchester Royal Infirmary, he served as surgeon-captain in the Natal Medical Corps, with the Zululand Field Force in 1906, receiving the medal and clasp. He was subsequently clinical pathologist at the Nordrach-on-Dee Sanatorium, assistant director of the clinical laboratory, and medical registrar at the Manchester Royal Infirmary. In these years he devoted himself whole-heartedly to cardiology, and published a considerable number of able papers on this subject in the *Quarterly Journal of Medicine* and elsewhere. In recognition of this work he was elected an honorary research fellow in medicine in the University of Manchester. During the war he held for a time a temporary commission in the R.A.M.C. With intellectual gifts of a high order Dr. Edgar Lea combined great industry and much charm of manner. His early

death is a loss to the medical profession of Manchester and to the science of cardiology. Many friends mourn his death, and the deepest sympathy is felt with his widow.

The Services.

THE INDIAN MEDICAL SERVICE.

ACTING RANK COUNTING FOR PENSIONS.

OFFICERS of the Indian Medical Service holding the temporary ranks and appointments in the field as D's.M.S. with the acting rank of surgeon-general, or D.D's.M.S. with the acting rank of colonel, are to be permitted to count service therein towards the additional pensions for which surgeon-generals and colonels respectively are eligible after certain periods of active employment in permanent appointments. Such services need not be continuous.

HONOURS.

ALBERT MEDAL.

SURGEON LIEUTENANT COMMANDER E. L. ATKINSON, D.S.O., R.N., has been awarded the Albert Medal for gallantry in saving life at sea. The following is the official record of the courageous act for which the distinction has been conferred:

On September 16th, 1918, a serious explosion occurred amidships on board H.M.S. *Glatton* whilst lying in Dover Harbour. This was followed immediately by an outbreak of fire, the oil fuel burning furiously and spreading fore and aft. Efforts were made to extinguish the fire by means of salvage tugs. The foremost magazines were flooded, but it was found impossible to get to the after magazine flooding positions. The explosion and fire cut off the after part of the ship, killing or seriously injuring all the officers who were on board, with one exception. The ship might have blown up at any moment. At the time of the explosion Surgeon Lieutenant Commander Atkinson was at work in his cabin. The first explosion rendered him unconscious. Recovering shortly, he found the flat outside his cabin filled with dense smoke and fumes. He made his way to the quarter deck by means of the ladder in the warrant officers' flat, the only one still intact. During this time he brought two unconscious men on to the upper deck, he himself being uninjured. He returned to the flat, and was bringing a third man up, when a smaller explosion occurred whilst he was on the ladder. This explosion blinded him, and at the same time a piece of metal was driven into his left leg in such a manner that he was unable to move until he had himself extracted it. Placing the third man on the upper deck, he proceeded forward through the shelter deck. By feel, being totally unable to see, he here found two more unconscious men, both of whom he brought out. He was found later on the upper deck in an almost unconscious condition, so wounded and burnt that his life was despaired of for some time.

FOREIGN DECORATIONS.

The following decorations and medals have been conferred by the King of Italy in recognition of distinguished services rendered during the course of the campaign:

Silver Medal for Valour.—Captains John Edwin Allan and William Eidinow, R.A.M.C.(S.R.)

Bronze Medal for Valour.—Captain (acting Major) George R. E. G. Mackay, M.C., R.A.M.C.(T.F.), and temporary Captains Francis J. A. Keane and John T. Lloyd, M.C., R.A.M.C.

Croce di Guerra.—Major-General Foster R. Newland, C.B., C.M.G., Lieut.-Colonels (temporary Colonels) Samuel A. Archer, C.M.G., R.A.M.C., and Ransom Pickard, C.M.G., R.A.M.C. (T.F.), Captain (acting Lieut.-Colonel) Ralph A. Broderick, D.S.O., M.C., R.A.M.C.(T.F.), Captains (acting Majors) Thomas D. Inch, O.B.E., M.C., R.A.M.C., Treffry Owen Thompson, R.A.M.C., Captain Robert L. Newell, R.A.M.C.(S.R.), Captain Oskar Teichmann, D.S.O., M.C., R.A.M.C. (T.F.Res.), temporary Captains Henry E. M. Baylis, R.A.M.C., James M. Christie, R.A.M.C., Ambrose Emerson, R.A.M.C.

The Emperor of Japan has conferred the Order of the Rising Sun (4th class) on Colonel William Robert Smith, R.A.M.C.(T.F.).

Surgeon Rear-Admiral J. J. Dennis, C.B., has been appointed a Commander of the Order of the Crown of Belgium, in recognition of valuable services rendered in the allied cause.

The name of Surgeon-Major Luke Gerald Dillon, M.D., has been mentioned by the Secretary of State for War for valuable services rendered in the United Kingdom in connexion with the war.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 16th the degree of Doctor of Medicine was conferred upon E. N. Russell.

On the same date a grace favouring compulsory science in the previous examination was rejected.

LONDON INTER-COLLEGIATE SCHOLARSHIPS BOARD.

Entrance Scholarships and Exhibitions, 1919.

SEVENTEEN medical entrance scholarships and exhibitions of an aggregate total value of about £1,550, tenable in the Faculty of Medical Sciences of University College and King's College, and in the medical schools of Westminster Hospital, King's College Hospital, University College Hospital, the London (Royal Free Hospital) School of Medicine for Women, and the London Hospital, will be offered for competition on Tuesday, July 1st, and not on July 15th as originally arranged. Particulars may be obtained from the Secretary of the Board—Mr. S. C. Ranner, M.A., Medical School, King's College Hospital, Denmark Hill, London, S.E.5.

CONJOINT BOARD IN ENGLAND.

THE diplomas of L.R.C.P. and M.R.C.S. have been conferred upon the following candidates, who have passed the final examination of the Conjoint Board and complied with the by-laws of the Colleges:

J. H. Allan, B. A. Astley-Weston, Marjorie Back, C. W. Bennett, H. Buck, E. E. Carter, R. A. Cooke, Idris Davies, W. S. Dawson, T. H. Dobrashian, Lucien Dublé, Dwijendra Nath Dutt, Sylvia V. Elman, F. A. Evans, J. Fanning, D. H. Geffen, R. B. Gibson, J. Gilmour, P. E. Gorst, St. G. B. D. Gray, Gwenvron M. Griffiths, Margaret Hammond, B. C. Hardiman, W. R. G. Harris, C. B. Henry, A. R. Hill, T. L. Hillier, F. G. Hobson, C. O. Hudson, R. Jenner-Clarke, Hassan Kamal, Muriel M. Kenworthy, Madari Andia Keshvalu, P. B. Kittel, A. O. Knight, J. N. Leitch, Lillian Lowenstein, L. Lyne, S. D. McAusland, J. J. M. MacDonnell, W. K. McKay, E. D. Macmillan, Girdharlal Tejral Mody, C. F. Newman, J. L. Nisbet, D. O'Donovan, J. L. C. O'Flyn, E. R. Peirce, F. L. Pickett, Norah D. Pinkerton, Lillie M. Pinson, W. Reikan, Hilda W. Richards, W. A. Richards, J. C. R. Richardson, E. D. T. Roberts, H. S. Robinson, J. S. Rogers, H. T. Roper-Hall, J. C. Russell, R. J. Saunders, A. E. Sawday, M. L. Schroeter, E. L. Sergeant, E. N. Showell-Rogers, W. S. Sykes, G. B. Tarring, A. C. Teuten, A. H. Turton, E. R. Webb, D. E. Wijewardene, S. C. de S. Wijeyeratne, S. Wolff, M. Wong, W. Worger, A. E. Young.

Medical News.

MR. G. E. GASK, C.M.G., D.S.O., F.R.C.S., having completed his service in France, has returned to civil practice in London, and Major J. J. COX, M.D., late Commissioner of Medical Services, North-West Region, to Manchester.

AMONG those who have recently been called to the Bar are Major H. J. Milligan, M.C., R.A.M.C., and Captain F. J. Henry, M.C., R.A.M.C., both of Glasgow University and Gray's Inn.

THE trustees of the British Museum have elected Sir Norman Moore, Bt., President of the Royal College of Physicians of London, a member of the standing committee.

THE governors of St. George's Hospital have abandoned the proposal to sell the hospital and rebuild elsewhere, and have decided to rebuild the hospital on the present site.

THE Hertfordshire Local Medical and Panel Committee invite medical practitioners to attend a special meeting at Hatfield on Tuesday next, May 27th, at 2.45 p.m., when Dr. Brackenbury will give an address.

DR. F. A. BAINBRIDGE, professor of physiology in the University of London, and Dr. G. S. Graham-Smith, lecturer in hygiene in the University of Cambridge, have been elected Fellows of the Royal Society.

THE King of the Belgians has conferred the honour of officer of the Order of the Crown of Belgium upon Dr. H. E. Cuff, O.B.E., principal medical officer, Metropolitan Asylums Board, in recognition of valuable services rendered in the allied cause.

DR. SEPTIMUS SUNDERLAND has received from the French Ambassador in London the decoration of Chevalier de la Légion d'Honneur in recognition of his many years of valuable service as physician to the French Hospital and Dispensary, Shaftesbury Avenue.

THE *Bulletin international*, a quarterly review which for forty-nine years has published reports of the international committees of the Red Cross, will become a monthly periodical with the title of *Revue internationale de la croix rouge*.

THE Prince of Wales has become president of the Royal Dental Hospital of London, Leicester Square, to show his appreciation of the work of the hospital since August, 1914; in this period over 350,000 operations were performed.

THE Royal Faculty of Physicians and Surgeons of Glasgow has adopted a resolution expressing the opinion that the Dogs' Protection Bill, if passed into law, would seriously impede the progress of exact medical knowledge. Copies have been sent to the Home Secretary and members of Parliament for Scotland.

DR. HAROLD PRINGLE, lecturer on histology and assistant in the department of physiology in the University of Edinburgh, has been appointed professor of physiology in Trinity College, Dublin, in the room of the late Sir Henry Thompson, who was drowned at sea when the *Leinster* was sunk in the Irish Sea last October.

THE post of Director-General of the League of Red Cross Societies, founded this month at the conference of Red Cross Societies in Paris, has been accepted by Lieut.-General Sir David Henderson, K.C.B., D.S.O., who was Director-General of Military Aëronautics from 1913–18.

THE Glasgow University Club is resuming its activities after the war. The Club dines at the Trocadero Restaurant on Friday next, May 30th. The Right Hon. Sir Robert S. Horne, Minister of Labour, will be in the chair. Further information can be obtained from Dr. David Roxburgh, honorary secretary, 30, Seymour Street.

DR. GRAHAM LITTLE has accepted an invitation to open the discussion on lichen planus, the subject chosen for general discussion at the meeting of the American Dermatological Association at Atlantic City in June. The meeting is to be held the same time as the American Congress of Physicians and Surgeons, of which the Dermatological Association forms a component part.

THE President of the Local Government Board has appointed Lieut.-Colonel Sir Shirley F. Murphy, F.R.C.S., R.A.M.C.(T.), some time Medical Officer of Health, Administrative County of London, at present attached to the London Command, to represent His Majesty's Government at the forthcoming congresses of the Ontario Medical Association and the American Medical Association to be held at Toronto and Atlantic City respectively.

THE accounts presented at the usual monthly meeting of the committee of the Medical Sickness, Annuity, and Life Assurance Friendly Society on May 16th showed a considerable decrease in the influenza claims. The experience of chronic claims on those in half pay was below the expectation, and had been gradually falling for some years, thus proving that the strict medical examination of new proposers was beginning to tell in the society's favour. The return of medical men to their practices from army service has resulted in a large increase of new business. The new scheme of sickness insurance for medical women had been favourably received. This is believed to be the first serious attempt to establish a permanent protection against sickness and accident for women practitioners. The society does not charge any extra premium for war risks on either life or sickness rates. Particulars of the society's work can be obtained from the Secretary, 300, High Holborn, W.C.1.

Letters, Notes, and Answers.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. ACTING FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

"AJAX" asks for suggestions for the relief of severe lightning pains in a patient with locomotor ataxia. Many drugs have been tried without benefit.

HOME FOR BLIND GENTLEMAN.

"A.T." desires to hear of a home where a blind gentleman, aged between 50 and 60, able to contribute 25s. a week, would be received. He has lived twenty years in a village, but the after-war conditions make matters difficult for him.

*** We have had, on this question, the advantage of the advice of Mr. Henry Stainsby (Secretary-General of the National Institute for the Blind). He writes that he knows of no home unless the blind man can pay from £2 to £3 a week, and adds: "A single person could live quite comfortably in a country village on 25s. a week despite these abnormal times. I should suggest, therefore, that the man return to the village which he knows so well and in which he is so well known, there to live a normal life."

SWIMMING FOR CHILDREN.

MR. WALTER EDMUNDS (London, W.1) asks for experience as to (1) the age at which healthy children should be taught to swim; (2) the best way to teach them; (3) the smallest bath in which they can be taught. The head master of a London County School, Mr. Edmunds writes, recently stated that all his boys over 9 years of age could swim. The concrete open-air swimming bath which some residential schools have is only of use in summer. An indoor warm water bath like that at the Tooting Special Military Hospital, described by Dr. Buzzard last week (p. 610), seems, Mr. Edmunds thinks, much better. The sea, even when available, is not, he suggests, very suitable for the purpose; the state of the tide does not often fit in with school routine. After learning to swim in fresh water, a boy would enjoy sea bathing much more than if he could not swim.

STYRIAN ARSENIC EATERS.

H. F. W.—Sir Thomas Oliver informs us that there is little to add to the account he gave of this matter in his article on arsenic in *Allbutt's System of Medicine*, vol. ii, Part I, but he has been good enough to give the following information: "The form in which the arsenic is taken is as *hüttereich*, a mineral substance rich in arsenic, 6 grains as a dose, gradually increased; it is taken also as orpiment (arsenic trisulphide), 2 grains for a dose at first. It is taken chiefly by males as a tonic and to improve the respiratory powers; it is said also to increase sexual desire and ability. Arsenic eaters in Styria, after they have gradually accustomed themselves to the drug and acquired immunity, have a longevity equal to the non-arsenic-eating population. There is no evidence that the arsenic eaters of Styria are more prone to cancer than others of the non-arsenic-eating population. In Great Britain the late Sir Jonathan Hutchinson found skin cancer follow after prolonged courses of treatment by arsenic; so, too, Sir Clifford Allbutt." From Sir Thomas Oliver's article it appears that the drug is taken at intervals of a few days, and that a local royal commission reported that the frequency of the practice had been grossly exaggerated.

LETTERS, NOTES, ETC.

MEDICAL RESETTLEMENT.

"EX-CAPTAIN R.A.M.C." writes: On joining the army I was informed by circular from the London Insurance Committee that men on my list who joined the army would be reinstated on my list automatically on their return to civil life, in accordance with a scheme agreed upon between the London Insurance and Panel Committees *and the Insurance Commissioners*. I now find this has been cancelled, with the result that a number have signed on with other doctors in my absence and wish to transfer to me. With the multiplicity of bodies looking after our interests, I think panel practitioners in the army should have been so informed, as many might not have signed on again. At the same time it does not lessen our sense of gratitude to the men at home who "carried on" under many adverse circumstances.

BENZOL FOR MOTOR CARS.

DR. W. J. YOUNG (Harston, Cambridge) writes: Mr. Massac Buist in his recent article suggested trial of a mixture of two parts petrol and one benzol. After trial I am able to recommend a mixture of half and half. The engine runs more sweetly, power is greater, mileage per gallon is increased and cost is lessened. My Napier, which would hardly move on the bad petrol of last winter, did quite nicely on the two to one mixture, and now runs quite admirably on half and half; my Ford revels in this mixture. As the engine heats more, the cooling apparatus must be looked to, the spark kept well advanced and plenty of air given. Benzol is said to have a tendency to "soot up"; the preventive is again plenty of air, which means also economy and efficiency.

*** The Automobile Association informs us that it is compiling a list of retailers stocking benzol; it invites motorists desiring information to communicate with the Fuels Department, A.A. and M.U., Fanum House, Whitcomb Street, London, W.C.2.

FAILURE TO NOTIFY OPHTHALMIA NEONATORUM.

AT the Newcastle-on-Tyne police court, on May 16th, a medical man was summoned on information laid by the medical officer of health charging him with having unlawfully and wilfully neglected to obey a regulation of the Local Government Board requiring notification of ophthalmia neonatorum. Mr. Molineux pleaded "guilty" on behalf of the defendant, who did not appear. The deputy town clerk, who prosecuted, said that the child was born prematurely; a certified midwife was in attendance and the defendant was called in later. Four days after the birth the midwife noticed a discharge from the child's eyes and the doctor's attention was drawn to this. Subsequently the child was taken to the defendant's surgery when he was out, and when the mother saw him later he ordered the child to be taken to the Eye Infirmary. The left eye was then totally gone and there was little hope of saving the other. The defendant, in a letter of explanation to the M.O.H., said he did not attend the child, and only looked in now and again when he was passing. He ended, "As it was not a case for me, I did not notify you, but at the same time if it had been, I was not aware that such cases had to be notified." In view of the notices sent out to all practitioners in the city by the M.O.H., the prosecution held that no one could be unaware of the obligation of a medical man to notify this disease. Dr. A. S. Percival, surgeon to the Northumberland and Durham Eye Infirmary, at the request of the magistrates, described the condition of

the child's eyes on admission, and said that the mother told him that the discharge existed from two days after the birth. The curability of this disease, he said, under proper treatment was extraordinary. He did not think that the gravity of the condition of the child's eyes should have been overlooked. The senior magistrate present, Dr. F. C. Coley, said that the bench had considered the case very carefully, and came to the conclusion that it was necessary to impose a fine of £50.

NAVAL MEDICAL DEMOBILIZATION.

THE appearance of "Temporary's" letter in the JOURNAL of April 19th has prompted several of his colleagues to write to us on the same subject. Their letters are all much to the same effect, and there is a certain monotony even in their pseudonyms. We have space only for extracts.

"TEMPORARY TOO" asks whether there is any guarantee that the Admiralty will credit the temporary surgeon, who has been a surgeon probationer, with his time in the latter rank when assessing priority claims for release; and whether the temporary surgeon serving abroad when his turn for release comes round will have to forego his opportunity and see others demobilized over his head? Few would credit, he says, the amount of unrest now existing among temporary surgeons, and he ends by asking if the Admiralty are prepared to state the number of temporary medical officers who have been released since the armistice, side by side with the number of other officers and men demobilized since that date.

"ANOTHER TEMPORARY" complains that the medical men who early in the war volunteered under a definite contract for service in the navy are still in ignorance as to how and when they will be demobilized. He cannot understand why the Admiralty do not make public the details of their plans for the release of temporary medical officers. He realizes, however, the very difficult position in which, owing to the dearth of candidates for permanent commissions in the medical service R.N., the authorities at the Admiralty must be placed; many of them, he admits, are most eager to reform and improve the service; yet month after month passes, the reforms do not appear, nor do candidates for permanent commissions.

"VERY TEMPORARY" asks when he and his colleagues may expect more effective means of appeal for release than the "proper service channels," where a purely medical appeal may be turned down by a layman. He insists that proper attention should be paid to individual cases. For the past sixteen months he himself has been in medical charge of a ship's complement averaging forty-five men; during that time he has done not more than six hours' work of any kind; meanwhile, requests for a change to some work have been met with "Cannot be forwarded," and pleas for early demobilization with "Cannot be spared." In his opinion the R.N.M.S. is over-staffed and ill-distributed.

DR. W. J. JAGO (Monmouth), writing from personal experience after demobilization in February last, says: "Although after four and a half years' service I can understand the anxiety of many temporary surgeons to be demobilized, yet it would be just as well if they curbed their anxiety. The dearth of doctors of which we heard does not appear to exist, and unless they have definite posts to go to they had better remain where they are." He states that naval medical demobilization was taken over by the Ministry of National Service, and that Appendix XII of the K.R. and A.I. (Engagement of Temporary Surgeons) has been done away with, though those concerned were not informed of the fact.

"TEMPORARY," in a further letter, makes inquiries with regard to the statement in the JOURNAL of April 26th, published at the request of the Medical Director-General R.N., that "the agreements signed by temporary medical officers on entering the Royal Navy will be honoured as a matter of course in all cases." This correspondent asks: (1) Do the Admiralty intend to release temporary medical officers at the date of the signing of the peace preliminaries with Germany, or have they some other interpretation of the phrase, "duration of the war"? (2) Will medical officers who insist on being demobilized receive the full gratuity as published in the JOURNAL of March 29th, or only that to which they are entitled under previous regulations?

A CORONER'S DIAGNOSIS.

WE have received a copy of the *Wiltshire Times* for May 17th, 1919, containing the report of an inquest held at Trowbridge, by Mr. Sylvester, coroner, on the death of a plasterer and tiler, aged 53. The widow's evidence showed that the deceased man, who had not seen a doctor for five years, had usually enjoyed good health, save for a complaint of slight pains in the stomach at times after meals. He was at work up to the day of his death, and seemed to be in his usual health. He ate bread and cheese for supper and had a glass or more of beer, after which he went to bed as usual. The widow had never known him faint or complain of giddiness. She was awakened during the night by a peculiar noise, which seemed to come from her husband's throat. She spoke to him, but he did not answer, and the doctor was sent for. Dr. R. M. Wright, of Trowbridge, stated in evidence that he was called about 2.45 a.m., and saw deceased (of whom he had no previous professional knowledge) lying in bed in a natural position, but quite dead. There were no external marks of any sort. The coroner pressed Dr. Wright to give an opinion as to the cause of death, but the witness replied that it was impossible to say what was the exact cause of death by simply seeing the body. He indicated several possibilities, of which the most probable was rupture of an internal aneurysm; but he quite properly refused to go further than that, insisting that without an internal examination he could not state the exact cause of death. The coroner said he thought this was the first inquest he had held where the medical witness was unable to form an opinion as to the cause of death. It seemed perfectly clear from the evidence that deceased came by his death from natural causes; there was no certain evidence as to those causes, but the most probable was rupture of an internal aneurysm. There was no suspicion that deceased had taken any drug or anything else, and he saw no reason why a *post-mortem* examination should be held. The case was quite a simple one and he had had hundreds and his father before him thousands of similar cases, and it had not been their practice to hold *post-mortem* examinations, and he did not now intend to put the county to the expense of doing so. From the evidence he found that deceased came by his death from the rupture of an aortic aneurysm.

We can understand the coroner's reasons for bringing in a verdict of death from natural causes, but we are not aware that there was any obligation upon him to go further in the absence of clinical or pathological evidence. The medical witness under pressure mentioned aneurysm as the most probable of various possible causes of death. If he did not think the circumstances called for a *post-mortem* examination the coroner should not have made a diagnosis and placed it upon the records. Such a finding is worthless and statistically misleading.

QUATERCENTENARY OF LEONARDO DA VINCI.

THE four hundredth anniversary of the death of Leonardo da Vinci was celebrated at Naples on May 2nd. An address was delivered by Professor Filippo Bottazzi. The great artist was an enthusiastic anatomist. He began his studies in the Hospital of Santa Maria Nova at Florence in 1489, when he was in his 37th year, and continued them at Milan in the Ospedale Maggiore and the Collegio dei Fisici, and afterwards at Rome in 1513 till they were forbidden by Leo X, on a denunciation of body snatching made by some German enemies. He dissected more than thirty bodies of men and women of various ages, and his observations were collected in one hundred and twenty books; much of the manuscript has been lost, and the drawings designed to illustrate the text of a great work on anatomy to have been written in conjunction with Marc' Antonio della Torre, the famous professor of Pavia, lay forgotten in the Ambrosian Library at Milan, and afterwards in the Royal Library at Windsor, until they were discovered in 1902. They are now in course of publication by the pious care of three Norwegian scholars, whose magnificent work, *Leonardo da Vinci: Quaderni d'Anatomica*, was reviewed in the BRITISH MEDICAL JOURNAL of March 10th, 1917. Some years ago E. Jackschath of Berlin put forward a claim that Leonardo was the real founder of modern anatomy, and that Vesalius stole not only his discoveries but his drawings. While it is undeniable that the great Italian artist was a pioneer in anatomy, the fact remains that his work remained unknown for five centuries. To Vesalius must always belong the fame of having been the Columbus of a new world of science.

THE appointment of certifying factory surgeon at Carney (Sligo) is vacant.

THE appointment of a medical referee under the Workmen's Compensation Act, 1906, for the Salford and Manchester County Courts, in Circuits Nos. 7 and 8 respectively, is vacant. Applications to the Private Secretary, Home Office, by June 12th.

THE Hillman Motor Car Company ask us to state that though, as stated a few weeks ago, they had evolved a 6-cylinder engine they are not marketing a car with an engine of this type as they are fully employed with their standard 11 h.p. car.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.